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ACUTE HEPATITIS IN A DIABETIC WITH SEVERE ACIDOSIS AND SUPPRESSION OF URINE*

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THE relation between liver function and diabetes has been stressed by all students of diabetes. The following case illustrates a severe form of acute hepatitis in a diabetic of moderate severity, the development of jaundice, acidosis, anuria, nitrogen retention, macrocytic anemia and final recovery.

Case 6533, stenographer, aged 27 at onset of diabetes in November, 1927 entered the Deaconess Hospital June 30, 1934 with an acute illness of two days' duration. She had taken insulin for six years. The urine contained sugar and diacetic acid but she was not in serious acidosis. Table 1 summarizes the chemical analyses and treatment with insulin.

HISTORY

The clinical features of her illness and its treatment can best be discussed under various headings.

Acute Hepatitis. Characteristic of the onset of acute hepatitis was the vagueness of the symptoms for four days prior to the development of jaundice. She first noticed pain in the back of the neck and in the shoulder region which later was localized at the base of the spine. The pain persisted for twenty-four hours when nausea and vomiting began. She vomited three times on June 30, between four and seven A.M. She had taken her regular dose of insulin, namely, 20 units before breakfast and 15 units before supper on the day before and the urine test on that day showed a green test with Benedict's solution. Upon admission the temperature was 101°, the blood pressure was systolic 120, diastolic 80, and the general examination was entirely negative. The urine contained no bile, no blood, 25 white cells per H. P. field and occasional granular casts, and the white blood count was 7,150. On July 3, the skin and sclerae appeared slightly yellow. During these intervening three days the urine each day contained no bile. Vomiting had continued and she had received intravenous glucose solution. The liver now was very tender and its lower border was almost at the level of the umbilicus in the mammary line. A white blood count was 5,050 as compared with a white blood count of 3,950 on July 1. Jaundice rapidly increased so that the blood bilirubin went from 3.2 milligrams on July 5, to 8.3 milligrams per 100 cc. on July 13. From this time on the diminution of jaundice was steady, falling to 1.8 milligrams on July 31. On August 24, the blood bilirubin was 0.3 milligrams monophasic.

The liver continued swollen, and on July 6 the liver dulness measured 14.5 centimeters. Tenderness began to diminish on July 7, and rapidly disappeared. No tyrosin or leucin crystals were found in the urine. The stools were clay colored, gave no test for bile and positive benzidine test. The cholesterol of the blood plasma increased from 175 on July 5, to 537 mg. on July 24, and then steadily diminished, the last analyses on August 24 showing a value of 238 milligrams. Reduced urinary secretion began on July 2, so that between July 2 and July 8 the total urinary output was 1,110 cc. Edema began on July 5, on arms, face and abdomen increasing steadily until on July 10 she weighed 114 pounds as compared with her usual net weight of 90 pounds. The anasarca began to diminish about July 18, and was nearly gone by August 2. Fever ranged between 101° and 103° for days. No chills occurred and there was neither clinical nor x-ray evidence of gall-bladder disease.

Acidosis. On the sixth day she was not drowsy and the tongue was moist, but she seemed extremely

TABLE 1

ACUTE HEPATITIS, ACIDOSIS, ANURIA AND ANASARCA IN A DIABETIC

Date 1934	Urine in 24 Hrs. cc.	Urine: Diacetic Acid	Urine: Sugar	Weight Pounds	Blood: Cholesterol Mgs.	Blood: N. P. N. Mgs.	Blood: Sugar Per Cent	Blood: CO_2 Vol. %	Insulin Units
June 30	(12 hrs.) 850	++	2.9			26	0.19		70
July 2	250	0	1.8			51	0.35		60
5	300	0	1.6		175	136	1.29	19	510
6	210	0	tr		190	102	0.04	25	15
7	0	—	—				0.19	25	120
9	400	0	1.0	114		120	0.61		85
12	800	0	0.5	114	331		0.07		90
16	600	0	0	116		64	0.19		70
24	900	0	1.4	104	537	36	0.47		68
Aug. 10	2250	0	1.9		309	37	0.44		60
24		0	0.6	90	238		0.11		58

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exhausted. The blood sugar was 1,290 milligrams, nonprotein nitrogen 136 milligrams per 100 cc. and the plasma CO_2-combining power was 19 volumes per cent. During a period of six hours she was given 510 units of insulin with the result that the blood sugar fell to 420 milligrams. This state might be classified as uremic, hepatic or diabetic acidosis. Without insulin her course would have surely been immediately downward.

Dyspnea. During the third week when anasarca was most marked she had nocturnal attacks of dyspnea, described as "asthma". Adrenalin gave some relief.

Anemia. The red cells numbered 4,540,000 on July 1. The hemoglobin was 84 per cent. The differential count was as follows: polynuclears 74; lymphocytes 23; large mononuclears 1; basophiles 2; platelets increased, red blood corpuscles—slight achromia. The development of anemia is shown in the following table:

TABLE 2

Date 1934	Hemoglobin	Red Blood Count Millions
July 1	84	4.5
" 11	63	3.6
" 17	62	2.8
" 24	53	2.9
Oct. 15	80	4.9

The character of this anemia tended to be hyperchromic. The individual cell volume on July 31, was 9.4 x 10^{-11}. This type of anemia together with the low white blood count gave interesting indications of the disturbance in liver function.

Renal Function. Three features influenced renal function. The first was the repeated vomiting due to hepatitis with loss of fluid and diminished kidney output. The nitrogen rose during the first three days to 51 milligrams per 100 cc. This feature was adequately controlled by the administration of liquids but fluid administration did not control the effect of the hepatic toxemia which produced anasarca and nitrogen retention so that the nonprotein nitrogen of the blood reached 136 milligrams on July 5. The third feature was diabetic ketosis which did not seem severe enough at onset to play much part. At the height of anasarca the serum protein was 5.2 per cent and the blood chloride 561 milligrams. Albuminuria was only moderate, recorded usually as a very slight trace or slight trace. Two out of seven specimens showed a few granular casts.

Treatment. From the outset of jaundice, ten per cent glucose solution was given intravenously in amounts of 1000 cubic centimeters once daily. In addition subcutaneous administration of 1500 cc. normal salt solution containing 75 grams glucose was used so that during two weeks she received a total of from 100 to 170 grams of carbohydrate daily. Hypertonic salt solution (10 per cent) 50 cc. and hypertonic glucose solution (20 per cent) 50 cc. were given intravenously at the height of her illness. On July 10, Lilly's liver extract, 2 cc. given intramuscularly, was begun and continued daily for four days. It was omitted until July 21, when her anasarca having increased so that her weight had reached 116 pounds, the anemia also having increased, it was resumed in doses of 2 cc. three times a day. At the same time reduced iron was given. Marked improvement followed so that in three days her weight fell to 104 pounds and urinary output increased accordingly. Insulin was given four times a day except on the day of diabetic coma, the dose varying from 70 units to 58. Her diet at discharge was carbohydrate 159 grams, protein 71 grams and fat 87 grams. On October 15, 1934 she was apparently well except for diabetes. The liver could barely be felt.

DISCUSSION

The diagnosis of acute hepatitis rested in this case upon fever, jaundice, painful swelling of the liver, low white blood count and secondary impairment of kidney function. Although no pathological examination of tissue was made, it is fair to assume that inflammation and edema within the liver involving the bile passages and particularly the intercellular spaces was present and had its effect upon the circulation and upon the various functions of the liver cells. Lichtwitz[1] recently has reviewed the functions of the liver especially in relation to blood supply, discussing them under six headings.

This grouping has been used below in discussing the effect of the hepatitis in the case under consideration.

(1) Transformation of substances (discussed below).

(2) Deposition of substances. The deposition of glycogen is of obvious concern and we may consider that, with the tremendous increase in blood sugar during the period of acidosis, glycogen formation and deposition must have been seriously disturbed in our case.

(3) Excretion. The height of the bilirubinemia clearly indicated both that bile was formed and that its excretion by way of the intestine was temporarily blocked.

(4) External and internal secretion.

(5) Distribution and movement of blood and lymph formation.

(6) Detoxication.

As regards transformation of substances, in our case only certain processes seem clearly disturbed. Under the transformation of protein substances occurring in the liver, the deamination of amino acids, the formation of urea, destruction of hemoglobin, the synthesis of protein and proteids, the formation of fibrinogen and heparin are included. In jaundice the ammonia content of the blood is increased greatly, indicating disturbed urea formation. Increased excretion of amino acids in the urine occurs. When liver damage continues for days or longer, the kidneys become involved, urinary secretion fails and acidosis is present. In our case although renal evidence of liver damage was severe, no hemorrhages or prolongation of coagulation time or bleeding occurred. The transformation of carbohydrate substances, especially the formation of glycogen from glucose, from amino acid and from fatty acids was presumably much disturbed. With the tremendous swelling of the liver there may have been a distention of the capsule which accounted for the pain and a certain interference with its oxygen supply. In cases where an invasion of

the liver by fibrous tissue as in sclerosis occurs, often a disturbance of the acid base equilibrium develops. In such instances no ketonemia takes place, but in this case with the presence of diabetes, an acidosis brought about by liver disturbance resulted in a severe acidosis without actual ketone bodies in the urine. Possibly the absence of ketone bodies in the urine was due to their retention within the body owing to failure of renal function.

The transformation of lipids in the liver includes destruction of fatty acids, formation of sterols, the hydrolysis of cholesterolesters and the hydrolysis of fat as well as the formation of bile acids. The remarkable increase in the cholesterol of the blood plasma in this case might be interpreted as in part due to the liver disturbance and in part due to the effect of acidosis upon the diabetes. It must be remembered however, that ketone bodies were not found in the urine after jaundice and severe acidosis began, indicating that the acidosis was not of the ordinary diabetic type. In true diabetic coma an increase in the cholesterol of the plasma is not always present, regardless of the degree of acidosis. Possibly cases of diabetic coma with marked increase in the plasma cholesterol are the cases with predominant disturbance in liver function and should be studied as a separate group.

The value of the determination of cholesterol esters as an indication of impairment of liver function is recognized.

The swelling of the liver was presumably due largely to inflammatory reaction with much edema. Edema of the liver occurs in toxic condition as an anaphylactic shock. In human beings allergic reactions with swelling of the liver and jaundice are not rare. Lichtwitz mentions an unusual case of a girl with sudden fever, urticaria, jaundice and gastro-enteritis. It is striking that in our patient at the height of her illness, attacks of nocturnal dyspnea simulated true bronchial asthma. In fact, adrenalin was given for its relief.

The division of the different activities of the liver is of great importance in relation to functional tests, and explains the failure of any one test to give satisfactory results in all cases. Certain cases without jaundice show retention of the bromsulphalein dye indicating involvement of the liver parenchyma. Similarly, Minot, from the Mayo Clinic, using the lactic acid tolerance test as an evidence of the liver's ability to form glucose or glycogen from lactic acid found that dogs with sclerosis of the liver could metabolize it almost as readily as normal dogs. However, in dogs with acute jaundice or acute degeneration of the liver this test showed very marked impairment of the function.

Spontaneous hypoglycemia occurred in patients with fatty metamorphosis of the liver reported by Judd, Kepler and Rynearson[2]. In their cases as in acute yellow atrophy, a reduction in the amount of functioning liver tissue and a corresponding diminution in the glycogenic function of the liver may be assumed. In our case the complete recovery indicates that the acute infectious process did its damage chiefly by reason of edema and toxic effects without giving evidence of any permanent reduction in the actual amount of liver tissue existing at the present time.

Treatment included glucose solution by vein and subcutaneously, carbohydrate by mouth so far as vomiting permitted, concentrated salt solution to aid urinary secretion, and the use of Lilly's liver extract. Bauer has also noted favorable results with liver extract in cases of coma from liver disease. No conclusions as to the efficacy of the liver extract are drawn in this case.

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A CASE OF GLOMERULONEPHRITIS WITH THREE AZOTEMIC EPISODES*

BY THEODORE S. EVANS, M.D.†

SLOWLY progressive glomerulonephritis is a condition about which a great deal is known pathologically in the end stages but whose early stages are relatively unknown. The progress of a case of pulmonary tuberculosis can be followed by x-ray examination and sputum tests and a fairly accurate prognosis may be given by an experienced physician after a period of observation; but as yet there are no methods by which really early renal impairment can be diagnosed or the course followed. That there is a fairly large group of cases who have no demonstrable kidney damage under ordinary conditions but whose renal function is inadequate during periods of stress and that these kidneys suddenly fail, was continually emphasized by Rolfe Floyd in his teaching of internes. In these individuals renal function failure may intervene from what seem to be trifling injuries, although a previous careful study may have shown normal urine, nonprotein nitrogen, phenolphthalein, Ambard and Van Slyke tests. Too

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frequently surgical cases die of renal failure in the postoperative course when the surgical condition is doing well. Some of these are due to circulatory collapse and consequent inability of the kidney to secrete urine, but some are undoubtedly cases of progressive glomerulonephritis.

If the renal margin of safety of a patient is accidentally discovered to be very small by reason of one of these breakdowns, one of two things is pretty sure to happen: Either the patient will die at the time, or if he recovers, he will be protected meticulously from any future event which might cause the same reaction. In the case here reported the functional margin of safety was very narrow and on three occasions renal failure with azotemia was apparently precipitated by self-imposed insults to the kidney and consequent circulatory collapse. Two of these episodes yielded to raising of the blood pressure by forcing fluids and consequent reëstablishment of function. The periods of well-being, which followed in one instance for one year and in the other for five years, represent a picture in which the renal tissue was mildly damaged but able to carry on ordinary bodily needs; however, when an unusually heavy load was put upon it, failure resulted. By the time of the third attack the cortex was so badly injured that recovery was impossible.

CASE REPORT

J. W., a married white female of sixty-three years entered the Grace Hospital, New Haven, Conn., on November 17, 1933 and died November 20, 1933.

On November 6, 1927 she had been admitted to the New Haven Hospital on the service of Dr. Francis Blake. Her major complaint at that time was vomiting which had been present for about six years but which had been gradually increasing until in the last two weeks she had retained practically no food or even water. In addition to the vomiting she had complained of diarrhea and pain in the abdomen over a long period and headache and extreme weakness for the last two weeks. C.R. and G.U. history was negative. Past and family histories were irrelevant.

It was later discovered that the patient had periods of depression when she felt that some one was poisoning the food and she would not eat anything or even drink water during these times. Apparently each of the uremic episodes started in this manner.

P.X. Temperature and pulse were normal throughout. B.P. 104/75 on admission.

A summary of Dr. Blake's findings and diagnosis at this time was as follows: The woman is emaciated and the skin dry. The tongue is dry and "beefy". Otherwise the physical examination is practically negative. Diagnosis: starvation, malnutrition, bone tumor at site of injury to right arm (callus formation), azotemia and psychoneurosis.

Laboratory Findings: Wassermann, negative; stools, negative; gastric series, negative. Hgb. 100 per cent, R.B.C. 5,000,000, W.B.C. 14,500, Polys, 82 per cent. Serum protein 5.45 per cent, serum globulin 1.59 per cent, serum albumin, 3.45 per cent.

	Urine	*Blood Chemistry*
November 6—	S. G.: 1.003 Alb.: Heavy trace (with granular casts)	Blood N.P.N.: 158
November 11—	S. G.: 1.017 Alb.: None No casts	Blood N.P.N.: 34

Treatment: Forced fluids.

Date	Intake	Effect on Urine Output	Blood N.P.N.
November 6—	Mouth, 1,000 cc. Hypodermic and intravenous, 4,500 cc.	260 cc.	158
November 7—	Mouth, 3,280 cc. H. & I., 3,000 cc.	760 cc.	
November 8 to November 11—	Average 3,700 cc. daily by mouth		
November 11—			34

In April, 1928, she was re-admitted to the New Haven Hospital with the same complaints as previously, but on this occasion they were not so severe. No new physical findings were made at this time. The Hg. was 98 per cent; R.B.C. 5,000,000; W.B.C. 7,600; Polys, 78 per cent. Urine showed a very faint trace of albumin. N.P.N. was not done. B.P. 111/75. Colon enema showed some evidence of colitis. The same diagnoses were made as before but colitis was added.

She was re-admitted again on July 17, 1928. The complaints were the same as on her previous admissions. Physical examination revealed the same conditions as before. The B.P. was 104/75.

Laboratory findings: Hgb. 80 per cent. R.B.C. 4,600,000. W.B.C. 7,500, Polys 70 per cent.

Date	Urine S. G.	Alb.	Microscopic	Blood Chemistry
July 17	1.012	H. T.	Granular casts	173
July 25				35
July 26	1.015	0	Negative	23

Treatment: Forced fluids.

	Intake	Urine and Effect on Blood Chemistry Urine Output	N.P.N. Blood
July 17	Mouth, 1,000 cc.	300 cc.	173
July 18	Mouth, 3,000 cc.	160 cc. plus	
July 21	Mouth, 3,700 cc. Hypodermic, 3,000 cc.	3,000 cc.	
July 22	3,600 cc.	3,700 cc.	35
July 26			23

The diagnosis was the same as before.

After these three admissions to the New Haven Hospital the patient remained well for a period of six years from the first illness. During this time she felt well and had no symptoms of any kind unless she was careless about her diet and then she had had some pain and diarrhea referable to the colitis. There was nothing that could be interpreted as cardiorenal in origin.

She was admitted to Grace Hospital on November 17, 1933.

She had been refusing to eat anything for about two weeks and had taken very little water. She complained of anorexia, nausea, vomiting and diarrhea which had gradually been increasing over a period of three months. Pain in the abdomen had become more severe. She stated that she had lost seventy-five pounds in the last year, but the family were sure that the loss of weight had not been nearly so great. During the twenty-four hours previous to admission she had had involuntary muscular twitchings. Even at this time there were no urinary symptoms.

Physical examination showed an emaciated woman with a very dry skin and a urinous breath. There was marked involuntary twitching of the muscles. The tongue was dry and the mucous membranes pallid.

On admission the pupils reacted to light and accommodation, but shortly after failed to react.

The eyegrounds showed slight arteriosclerosis but no old or recent hemorrhages. The heart, lungs, breasts, and abdomen were negative. There were a few badly neglected teeth that showed caries. There was a large callus formation on the right arm at the site of an old fracture. The reflexes were all exaggerated and clonus was present in the calves. Rectal examination was negative. Vaginal examination showed an atrophic vagina and uterus. Blood pressure was 120/90.

A diagnosis of impending uremic coma was made and this seemed to be substantiated by finding albumin and casts in the urine and a blood N.P.N. of 60 mg.

A poor prognosis was given the family, who then volunteered the history of the previous episodes. In spite of this information the prognosis seemed very grave.

Fluids were given intravenously and by mouth in large amounts, but in spite of all that could be done the patient went into coma at noon on November 18, when her blood N.P.N. was found to be 109 mg. The blood pressure dropped steadily, and she passed only a very little urine. We continued to force fluids until night when edema of the legs developed. After that it did not seem reasonable to give more intravenous fluid. The blood N.P.N. at this time was 100 mg. and the creatinin 4.6 mg.

On the night of November 18 a consultation was held with Dr. James Fox, who had seen her when she was ill in 1927. He agreed with all the physical findings and considered the possibility that the general collapse might be due to starvation and an extreme degree of vitamin deficiency. For this reason liver extract was given parenterally but no improvement was noted.

Dr. Francis Blake was kind enough to see the patient in consultation and he checked all the findings. He agreed with the diagnosis and suggested that possibly the serum protein was low and that therefore the intravenous fluid could not be utilized. He considered that transfusion might raise the blood proteins sufficiently to allow the absorption of the edematous fluid. The blood chemistry showed: Serum protein albumin 6.77 per cent. Transfusion proved of no value and the patient died the following morning.

Laboratory findings: Wassermann, negative; Blood Count: Hgb. 50 per cent; R.B.C. 3,600,000; W.B.C. 6,000; Polys 69 per cent; Lymph 27 per cent; Monos. 4 per cent. Stools showed no blood, ova or parasites but a moderate amount of pus.

	Urine			*Blood Chemistry*		
Date	Sp. G.	Alb.	Microscopic	N.P.N.	Sugar	Serum Alb.
November 17	1.010	Heavy trace	W.B.C. many R.B.C. occ.	60	83	
November 18	1.020	Heavy trace	Many casts R.B.C. & W.B.C.	109		
November 19	No urine passed			100	Creatinin	4.6
November 20	No urine passed			230		

Treatment: Forced fluids.

			Effect on Urine and Blood Chemistry and Blood Pressure				
			Output	Blood Pr.	N.P.N.	Creat.	S. Al.
November 17	Mouth	2,500 cc.					
	Intravenous	1,500 cc.	100 cc.	120/90	60		
November 18	Mouth	300 cc.		100/70	109		
	Intravenous	3,000 cc.	Very little				
November 19	Intravenous	5,000 cc.	None	90/50	100	4.6	6.77%
November 20		1,000 cc.	"	?	230		

The clinical diagnosis was as follows:

Chronic Nephritis
Psychoneurosis Resulting in Malnutrition and Starvation
Colitis
Hypotension
Azotemia
Mild Arterial Degeneration
Callus at Site of Old Fracture of Right Humerus.

AUTOPSY

Patient: J. W., aged sixty-three. November 20, 1933, 10:00 A.M.

Body that of a rather small woman, poorly nourished. Body length 161 cm. Only a slight amount of postmortem rigidity and lividity present. The veins of the right leg below the knee were somewhat tortuous. No edema of ankles. There was a callus of an old fracture of the right arm.

Left lung generally adherent by old adhesions.

Heart rather small, weight 250 grams. Left ven-

tricle well contracted, orifices and valves appeared normal, myocardium showed no apparent increase in fibrous tissue, coronary arteries smooth.

Lungs showed some chronic vesicular emphysema. Left lung showed a rather small amount of edema. Right lung showed quite marked edema of the upper lobe and marked congestion and edema of the lower lobe and there may be some hypostatic pneumonia here.

Spleen weighed 85 grams, nothing of note.

Stomach appeared normal.

The mucous membrane of the lower part of the small intestine appeared smoother than normal. The wall of the large intestine was somewhat thicker than normal and appeared quite smooth. No ulcerations seen. There were a few small polypoid projections, the largest one being less than 1 cm. in diameter.

Liver small, weight 980 grams. Smooth on surface, moderately congested. The gall-bladder was much distended and posteriorly was adherent to surrounding structures. It contained a rather thin bile and four dark-colored facetted calculi roughly 1-1.5 cm. in diameter.

Suprarenal capsules showed nothing of particular note.

Kidneys combined weight 230 grams. Capsules not adherent, cortical surface granular throughout, the elevations being of only moderate size and no deep depressions. On section the cortex was markedly thinned and a few minute cysts were seen. Arteriosclerotic kidneys.

The aorta showed quite pronounced sclerosis below the diaphragm, most pronounced just above the bifurcation where there was some calcification. Bladder, nothing of particular note. Uterus and ovaries atrophic.

Anatomical diagnosis: Glomerulonephritis. Sclerosis of aorta. Congestion and edema of lungs. Hypostatic pneumonia (?). Calculi in gall-bladder with distended gall-bladder. Callus of old fracture of arm.

Autopsy by Dr. Bartlett.

Technical Assistant—Peter Oswald.

Autopsy: Microscopic. The heart shows nothing of particular note. The kidneys show extensive hyalinization of the glomeruli. In many areas the glomeruli are almost entirely replaced by this hyalin structure. In other portions a large part of the glomerular tuft has been replaced leaving only a few dilated capillaries. A small per cent of the glomeruli show smaller hyalin areas, in some cases only a single small amount of hyalin, but no glomerulus was seen in any of the sections that was not involved to a greater or lesser extent. Some of the hyalinized glomeruli are shrunken, but many are as large as normal. Practically all of them show connective tissue growth between the glomerular tuft and Bowman's Capsule. In most of them the capsule is more or less thickened. There is much connective tissue growth throughout the cortex of the kidney with compression of the tubules included in these areas and dilatation of the tubules between them. There is also considerable sclerosis of the arterioles. There are numerous hyalin casts in the tubules. I consider this to be an advanced case of chronic glomerulonephritis and not primarily an arteriosclerotic kidney.

C. J. Bartlett.

COMMENT

The history, course, clinical picture, laboratory examinations and the autopsy combine to make the diagnosis of glomerulonephritis with renal failure and azotemia positive. The progress of the nephritis was slow, probably occupying a period of at least six years. During a large part of this time demonstrable lesions of renal damage were absent and were seen only during periods of overwork.

As to the origin of the disease there seem to be two possible points of view:

First: We may assume that the kidney tissue of the patient was normal at the time of the first illness and that the dietary and water privation caused severe temporary damage to the functional efficiency of the organ. This incident was followed by evidence of return to normal function for one year. Whether underlying weakness was still present cannot be definitely determined, but it seems very probable in the light of later events. A second insult of similar type one year later resulted in the same type of reaction and again "cure" apparently resulted from appropriate treatment. During the five years following the second breakdown the patient was asymptomatic but it can be definitely stated that progression of glomerulonephritis was going on for part of this time since the picture seen at autopsy was one which must have required considerable time for development.

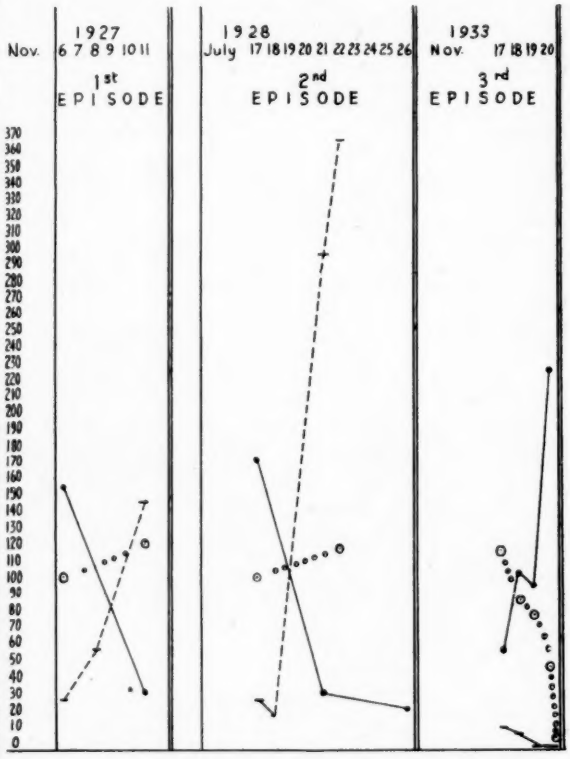

CHART SHOWING RELATION OF N.P.N., BLOOD PRESSURE AND URINARY OUTPUT

Nonprotein Nitrogen per 100 mg. ——
Blood Pressure in mm. Mercury oooo
Urinary Output in 10 cc. - - - -

Secondly: We may assume that there was already considerable "silent" injury to the kidney tissue at the time of the first episode and that this injury merely made demonstrable a condition which was already existent. Subsequently there were periods of apparent cure and periods of breakdown as described above.

It seems probable that, whatever may have been the origin of the disease, damage was definitely present after the second decompensation and was slowly progressive during a period which was asymptomatic. This progression reached a point which was inconsistent with life. As to how important a part the last insult played in the fatality no definite statement can be made, but it is worth while to point out the facts:

1. The nonprotein nitrogen was higher at the beginning of treatment in the previous episodes than in the last and in spite of this apparently good sign it rose rapidly while the blood pressure fell.

2. The extent of renal destruction found at autopsy must have taken a long time for development. It seems probable that the fatality was only hastened somewhat by the last period of starvation and would have intervened in a short time in all events.

The behavior of the blood pressure, urinary output, and nonprotein nitrogen are of particular interest. During the first two periods of hospitalization the blood pressure and urinary output rose rapidly under treatment while the nonprotein nitrogen fell. In the last illness, however, the blood pressure and urinary output fell rapidly under the heroic treatment while the nonprotein nitrogen rose. In other words the fall and rise of the blood pressure and urinary volume were always in direct proportion to each other and in inverse proportion to those of the nonprotein nitrogen.

SUMMARY

A case of glomerulonephritis is reported. There were three separate periods of renal failure which were followed by apparent cure in the first two instances while the last proved fatal.

It seems likely that minimal renal injury remained after apparent cure resulted in the first episode and that this was intensified by the second insult one year later. Between the second and third episodes very marked degeneration of renal tissue occurred and death resulted.

CHRONIC CYSTIC MASTITIS
PRACTICAL MANAGEMENT IN A CANCER CLINIC*

BY HORATIO ROGERS, M.D.,† AND IRA T. NATHANSON, M.D.†

THE term "chronic cystic mastitis" has long been used to designate a more or less heterogeneous group of breast changes the natural history of which was poorly understood. In recent years intensive study of these breast conditions has resulted in various clinical and pathologic concepts, each with its own terminology and its own implications. Avoiding as much as possible this disputed ground, it is our purpose to discuss certain practical aspects of the management of these cases in a cancer clinic.

The most startling impression gained from a study of recent writings on this subject is the lack of agreement as to the meaning of premalignancy. Pathologic studies can do no more than describe the activity of epithelial cells in various phases of hyperplasia or degeneration, and suggest inferences as to their possible relationship to the development of cancer. The ultimate proof of such inferences by the correlation of pathologic and clinical observations must obviously await the passage of many years. In the meantime we are forced to act on the basic assumption that cancer of the breast develops, not by chance, but because of the presence of certain conditions favorable to its growth. Furthermore, on the basis of what information we have, we must assume that these conditions are most likely to be found among the organic proliferative changes of breast tissue variously described under the generic heading of "chronic cystic mastitis".

Whether we can separate the breast changes due to exaggerations or defects of the normal breast cycle (the "mazoplasia" of Cutler and Cheatle) from the permanent organic changes described by Schimmelbusch and Reclus, whether they are all part of a single process terminating in cancer of the breast, or whether none of them bear any relationship at all to cancer, we are still confronted with the practical problem of how best to manage this group of patients which is increasing not only in numbers but in its demand for definite reassurance and advice.

CLINICAL PICTURE

Within the past six years the general diagnosis of chronic cystic mastitis has been made in the case of 177 patients at the Pondville Hospital. Essentially, this diagnosis was used to describe breasts which, while not considered normal, still gave no evidence of the presence of neoplasm or infection. The average age of the patients was thirty-nine years. The delay in seeking medical advice averaged six and one-

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half months, about half the average delay shown by an equal number of patients with cancer of the breast who visited the clinic during the same period of time. This relative promptness was probably due to the higher incidence of pain in the benign group, 43 per cent as opposed to 19 per cent among the patients with cancer.

SYMPTOMS

Pain, tenderness, or both was the outstanding complaint in about half, and in the other half it was the discovery of a lump in the breast which brought the patient to the clinic. The pain was variously described as "drawing, shooting, radiating, aching, fullness, tightness, and soreness" and varied in intensity from almost nothing to a severe pain which was a real disability. The tenderness in some cases was so marked that the patient could not roll over in bed. Of the patients from whom the relation of symptoms to catamenia was learned, 70 per cent described a definite relationship and 30 per cent a definite lack of relationship.

PHYSICAL FINDINGS

Since no case with findings suggestive of neoplasm or infection is included in this study we are left essentially with lumpiness of the gland tissue as the only objective manifestation. Practically all of these breasts showed gross lumpiness, either diffuse, localized or limited to a single lump, and ranging in degree from cases in which the breast felt like a bag of walnuts to those in which the gland tissue was palpable but within the probable limits of normality. For convenience of description the consistency of the breast tissue is reduced to a fairly simple classification, illustrated in table 1, which also gives the distribution of findings in the 177 cases of this series. The commonest finding is diffuse lobular or nodular gland tissue.

TABLE 1

PHYSICAL FINDINGS IN 177 CASES CLINICALLY DIAGNOSED "CHRONIC CYSTIC MASTITIS"

Diffuse, shotty or granular	39
Localized, shotty or granular	2
Diffuse, lobular or nodular	72
Localized, lobular or nodular	12
Single lump or mass	38
Brawny induration	1
"Normal" breast tissue	1
Not described	12
Total	177

The discrepancy between the localization of symptoms and the site of the abnormal physical findings is very striking and characteristic. Of the first sixty-four patients mentioned above, 86 per cent had unilateral symptoms, but the findings proved to be bilateral in all but twenty-eight cases. In a similar number of patients with cancer of the breast, both symptoms and signs were unilateral in every case.

MANAGEMENT

The extreme diversity of opinion regarding the relationship of benign breast changes to cancer, existing not only among clinicians but among pathologists as well, has already been mentioned. In the face of this uncertainty, biopsy becomes of questionable value. At present the only operative procedure which removes the danger of cancer is complete removal of the breast tissue. (The discussion of such measures as treatment by x-ray, etc., is not within the scope of this paper.) So long as breast tissue suspected of being premalignant remains, it would appear necessary to keep the patient under observation. Thus, an active clinic is faced with the alternative of doing many unnecessary mutilating operations or of assuming a constantly increasing load.

OPERATION

In table 2 it will be seen that operative measures were advised in sixty-one cases, accepted in all but eight, and carried out with reasonably good immediate results in fifty-three. Of these sixty-one patients, all but thirteen are, or perhaps should be, still under observation because of the threat of cancer.

The chief indications for operation were as follows: (1) increase in lumpiness, (2) intractable pain, and (3) presence of a circumscribed area of disease in an otherwise normal breast.

PATHOLOGIC FINDINGS

In table 3 the pathologic findings are listed according to their distribution among the clinical types of breast tissue on which the fifty-three operations were done. The majority of operations were done for single lumps, but lumps not sufficiently well-defined to be interpreted clinically as adenofibroma, large single cyst, or cancer.

The danger of relying on clinical diagnosis alone is suggested by the finding of cancer in four instances.

The piling-up of epithelial cells in papillary formations within the ducts is considered by some observers to be the step which precedes penetration of the basal layer seen in actual cancer. This appearance was found in sixteen instances.

Hyperplasia of the epithelium lining the ducts, the interpretation of which is also still in dispute, was found in thirty-two instances.

We are not prepared to say which, if any, of these microscopic appearances may be associated with the later development of cancer. We wish here only to point out that their presence, and even the presence of actual cancer, cannot al-

ways be detected by simple physical examination.

NOTHING ADVISED

Fifteen patients (table 2) were advised that no treatment or observation was necessary. In spite of this advice four patients insisted on remaining under observation, one showing complete recession of signs and symptoms coincident with pregnancy, and the other three continuing to complain of symptoms.

The pregnant patient gave a typical story of mazoplasia of two years' duration, and at her first visit had already skipped one menstrual period. On her return six weeks later the uterus was the size of a three and one-half months' pregnancy; there were no breast symptoms, and the diffuse lumpiness which was noted at the first visit had completely disappeared. Similar observations were made in the case of a patient who had been under observation for three years when the signs and symptoms of mazo-

TABLE 2

MANAGEMENT OF 177 CASES CLINICALLY DIAGNOSED "CHRONIC CYSTIC MASTITIS"

		Progress				Coöperation			
		Better	Unchanged	Worse	Progress unknown	Made return visits	No return visits	Case open but will not return	Case closed
Local excision done	31	22	3	1	5	26	5	2	6
(Advised but not done)	3	1		1	1	2	1		
Simple amputation, unilateral, done	13	12		1*		13			3
Simple amputation, bilateral, done	4	4				4			4
(Advised but not done)	5	1	1		3	2	3		
Radical amputation done	5	3		1†	1	4	1		
Totals	61	43	4	4	10	51	10	2	13
No treatment or observation advised	15	1	3		11	4	11		15
Observation advised	45	11	14	1	19	26	19	10	3
Observation and brassiere advised	24	8	7	3	6	18	6	4	3
Totals	69	19	21	4	25	44	25	14	6
Endocrine treatment given	32	19	5	1	7	32			
Grand total	177	82	33	9	53	131	46	16	34

*Cancer in other breast.
†Died cancer.

TABLE 3

CORRELATION OF PHYSICAL AND PATHOLOGIC FINDINGS IN 53 CASES CLINICALLY DIAGNOSED "CHRONIC CYSTIC MASTITIS"

Physical Findings in 53 Operated Cases Clinically Diagnosed "Chronic Cystic Mastitis"	Pathologic Findings: Cancer in otherwise normal breast tissue	Cancer with cysts and epithelial hyperplasia	Cysts, epithelial hyperplasia and intraductal papilloma	Cysts, proliferative and desquamative epithelium	Epithelial hyperplasia	Periductal infiltration and epithelial hyperplasia	Adenofibroma with periductal infiltration and epithelial hyperplasia	Adenofibroma in otherwise normal breast tissue	Totals
Diffuse lobular			5	8	2	2	1		18
Single lump	1	3	11	9	3	2	3	1	33
Diffuse shotty					1	1			2
Totals	1	3	16	17	6	5	4	1	53

plasia disappeared during the fourth month of pregnancy, after having been worse during the first three months.

These two cases suggest the association of the breast changes described as mazoplasia with excess corpus luteum influence, inasmuch as the hormone progestin has been shown to be at its highest level during the first few months of pregnancy when estrin is known to be at a low level. The disappearance of breast symptoms in these cases would thus correspond with the rise in estrin and the concomitant weakening of the corpus luteum influence.

OBSERVATION

Sixty-nine patients (table 2) were advised to return periodically for observation. In some cases in which the weight of heavy breasts was thought to be a possible factor, the patient was advised to wear a supporting brassiere. Although nineteen patients reported some degree of symptomatic improvement, only six cases were officially closed, one of them being that of the pregnant patient mentioned above.

Contrary to the advice given them, twenty-five patients made no return visits at all, and fourteen patients declined to remain longer under observation. Thus the attempt to keep untreated patients under observation failed more often than it succeeded. This becomes more significant when it is realized that each of the delinquent patients was sent for repeatedly, some by personal visits of a social worker, and all by letter.

It is fair to conclude from this experience that any program of management which offers the patient nothing more than observation visits over a long period of time demands an unreasonably high degree of coöperation and fails of practical success.

There are additional factors which make prolonged observation without treatment undesirable. Three patients in this group developed neuroses during the period of observation: one was a thirty-seven year old woman who had recently been told that a lump which was excised from her breast ten years before might come back. Three weeks later she began to have a sense of fulness in the left breast. On examination there was diffuse coarse nodularity of both breasts. She was advised to return at three month intervals. On her second visit the breast condition was unchanged, but she was obsessed with the idea that her lungs were full of cancer, and she described attacks of suffocation which she ascribed to this cause. Thorough physical examination revealed no organic basis for her symptoms. She was given emphatic reassurance but has not returned or replied to enquiries for three years.

A thirty-one year old married woman who had been reading about cancer since her sister's operation became conscious of soreness in the left breast. Examination showed bilateral mild diffuse nodularity. She was reassured and asked to return in six months. When this visit was two months overdue, the social worker called and found her suffering from a "nervous breakdown". There had been no breast symptoms since her visit to the clinic, but she refused to return for examination.

A married woman of forty-four, of a neurotic temperament, had undergone radical operation for cancer of the right breast three years before. During convalescence her local doctor is said to have told her that she had pain in the legs because she was "still full of cancer". On the development of lumps in the remaining breast, eventually treated by simple amputation and shown to be cystic disease, she developed mental symptoms, and at present is a helpless nervous invalid with no evidence of malignant disease.

These are extreme examples, but the emotional factor is undoubtedly present to some degree in all cases and must be taken into account. Many patients with the dread of cancer demand a more positive form of reassurance than is afforded by an indefinite period of being kept under observation.

The last group of thirty-two patients shown in table 2 were given endocrine medication for a purpose which will be discussed presently. All of them returned as requested for examination, presumably because they, like the patients who had operative procedures, felt that something was being done for them.

ENDOCRINE THERAPY AS A DIAGNOSTIC AID

Although the exact mechanism remains to be determined, it now appears certain that an important relationship exists between benign breast changes and the endocrine system. The current conception is, briefly, that functional breast changes (mazoplasia of Cutler and Cheatle) are brought about by a dominating corpus luteum influence due either to an excess of progestin or a deficiency of estrin.

If for practical purposes we may assume that in cases which respond to appropriate endocrine therapy there remains no question of premalignancy and hence no need for operation or prolonged observation, then we have a valuable diagnostic agent whose use would greatly simplify the management of benign breast conditions. At present we feel justified in acting on this assumption only when the response is objective as well as subjective, that is, when the breast tissue returns to its normal consistency as a result of medication.

In the short series of cases shown in table 4 we have purposely adopted very rigid criteria for measuring improvement. The patients are

asked no leading questions but allowed to volunteer information about any changes they may have observed. The breasts are carefully examined and the findings compared with detailed notes of the previous examination. Unless the improvement is unmistakable, the result is classified as doubtful.

MEDICATION AND DOSAGE

For the purposes of this study it was thought desirable to use a substance which (1) contained the female follicular sex hormone estrin without the corpus luteum hormone progestin, (2) would be effective by mouth in small doses, and, (3) would not be too expensive to supply to a number of patients. The products used were Ovarian Residue (Wilson) and the oral preparation of Progynon (Schering) both kindly supplied to us by the manufacturers. Ovarian Residue is an extract of whole ovarian substance minus the corpus luteum hormone, progestin. Progynon is the follicular hormone, estrin.

In the absence of certain knowledge concerning the effect of these preparations on the human mechanism over a long period, we have not felt justified in using large doses or in prolonging the medication beyond six months. Both substances were necessarily given by mouth, since the patients could not return to the clinic daily. Medication was given only for the ten days preceding each menstrual period over an interval of three months. The dosage used was: Ovarian Residue, 1 capsule (5 grains) t.i.d., or Progynon, 1 tablet (45 Allen-Doisy rat units) t.i.d.

The procedure has been to supply the patient with enough of one or the other product to last three months, when she would return for examination. If the subjective and objective relief was found to be complete, medication was stopped and the case was closed. If the result was inconclusive, another three months' trial was started, using the other product. If this also failed to be conclusive, medication was discontinued and operation was advised, provided the indications were sufficient to warrant it.

EFFECTIVENESS

Reference to table 4 suggests that these small doses are effective. The large number of treated patients showing unmistakable improvement is significant when compared with the small number of patients in the control group showing spontaneous improvement. Ten of the treated patients had been followed for from one to four years before treatment, returning regularly because of the constant presence of symptoms. Of this particular group to date six have shown complete relief, one partial relief, and one an exacerbation of symptoms coincident with treatment.

Ovarian Residue and Progynon have so far been used in about an equal number of cases with almost equal effectiveness. In a few cases Progynon has seemed to succeed after Ovarian Residue had failed, but it would be unfair to ascribe to one product an effect which may have resulted from the action of both.

The majority of patients who were improved reported little or no relief after one month of medication, and in a few there was no response even after two months. Several patients, however, described rather prompt effects. One patient reported cramp-like abdominal pains and relief of breast symptoms after only ten days

TABLE 4

COMPARISON OF TREATED AND UNTREATED GROUPS

25 Cases Treated by Endocrine Products

	Symptoms Improved	Not Improved	Findings Improved	Not Improved
20 cases showing relation to cta. (average age 34.4 years)	18	2	14	6
5 cases showing no relation to cta. (average age 48.6 years)	1	4	2	3
25 treated cases	19	6	16	9

25 Untreated Cases

	Symptoms Improved	Not Improved	Findings Improved	Not Improved
17 cases showing relation to cta. (average age 36.5 years)	4	13	3	14
8 cases showing no relation to cta. (average age 38.2 years)	1	7	1	7
25 control cases	5	20	4	21

of medication. The following month she herself reduced the dosage to one-third with partial recurrence of breast symptoms but no abdominal pains. The third month, however, on the reduced dosage, the breast symptoms returned with their original severity. The patient was then advised to take the prescribed dose, following which there was relief of breast symptoms and no further abdominal pain. The presence of ovarian disease has been proved by operation in at least nine of the cases in our series and on the basis of pelvic examination it was suspected in several others.

The responsiveness to medication of those twenty patients whose breast symptoms were associated with menstruation is pointed out in table 4. Before treatment fourteen described their periods as scanty, one as scanty and irregular, one as irregular, and four as normal. Eight have now reported that since taking medication their periods have become more regular, more profuse, and more prolonged. One patient volunteered the information that it was the first time her periods had ever been regular. In all eight of these cases there was complete relief of breast symptoms and disappearance of lumps from the breasts.

Of the five treated patients whose breast changes were unrelated to catamenia the periods were described as normal by three. Menstruation was absent in the other two cases through artificial or natural menopause. Four of these patients were not responsive to medication, one was made definitely worse by it.

INTERPRETATION

In interpreting these results, it is necessary to bear in mind the purpose for which the test is being used, namely, the elimination from the clinic of those cases in which there are no reasonable grounds for the suspicion of precancerous lesions. We are assuming that complete disappearance of lumps from the breast warrants our belief that no precancerous lesion is present. On this basis we are reducing the number of suspicious cases by more than half. (The subsequent treatment and permanent cure of patients who present no question of premalignancy is outside the scope of this paper.)

A partial or total failure to respond to medication, however, cannot be taken as indicating the presence of a precancerous lesion, but neither does it indicate its absence. Such a result may equally well be due to inadequate treatment of a purely functional condition or to the presence in the breast of progressive organic changes. What advice to give the patients remaining in this group will be a difficult problem until pathologists agree on what constitutes a precancerous lesion of the breast. In the meantime we believe that operation, either thorough local excision or simple mastectomy, dismissing the patient with a clean bill of health so far as cancer is concerned, is better than prolonged observation without treatment.

CONCLUSIONS

1. Until it shall be proved to the contrary, we must act on the assumption that some of the clinically benign breast changes often loosely referred to as chronic cystic mastitis are or may become precancerous.

2. Innocent breast changes cannot be distinguished from precancerous lesions by their clinical characteristics alone.

3. The test of long clinical observation is neither safe nor effective.

4. Thorough removal of suspected breast tissue is safe and effective, but the accompanying mutilation of the patient is not always justifiable.

5. More than half of the patients clinically suspected of having precancerous lesions will respond to appropriate endocrine therapy by a temporary disappearance of signs and symptoms.

6. We are justified in accepting such a response as evidence that no premalignant lesion is present.

7. Lacking such evidence, and in the face of increasing lumpiness, intractable pain or easily resectable lesions, we are justified in advising operation as preferable to prolonged observation.

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AN EXPOSITION OF THE PREPARATION AND ADMINISTRATION OF AMNIOTIC FLUID CONCENTRATE

BY HERBERT LESTER JOHNSON, M.D.†

IN 1927[1], the author reported observations on a series of clinical cases and laboratory animals in which human or bovine amniotic fluid was used to stimulate the defense repair mechanism of the peritoneum. While the clinical evidence was obtained entirely from cesarean cases, sufficient proof of the efficacy of this method of inducing peritoneal immunity was apparent to warrant its application to a wider field of abdominal surgery. To accomplish this extended application, it was necessary to establish a dependable source of supply of whole amniotic fluid and a method of purification which would render its use as a stimulator of peritoneal immunity safe beyond question.

The cow was selected as the most available and abundant source of supply. Among the heavy western range cattle assigned to the slaughter houses, about one cow in every five is in calf. After inspection by government agents, uteri, two to five months pregnant, are selected from approved animals. The amniotic fluid at this early period is especially pure and free from extraneous substances such as vernix caseosa, hair and mucus. There is no need to fear contamination of the amniotic fluid by the calf's urine since the bladder of the calf is connected directly to the outer or allantoic sac, by the urachus. This fact alone removes the objection of many clinicians to the use of this substance.

With the assistance of the Scientific Staff of the Lilly Research Laboratories, a purified, stable, isotonic concentrate of amniotic fluid was prepared. By a process of fractionation, certain proteins, albumins, lipoids and other potentially harmful substances were removed, making the end product practically innocuous. It is this product which we have used in our clinical and experimental work for the past seven years.*

The normal peritoneum responds to trauma, infection, chemical irritation, etc., by the production of a defense exudate. The character of this exudate will depend largely on the nature of the substance introduced. Such a reaction is in conformity with the law that, "to a stimulus the living being responds by a reaction which tends to neutralize the effect of the stimulation." If the peritoneal invasion be bacterial in nature, an attempt will be made to localize the process, destroy the bacteria, neutralize their toxins and restore the field to normal through the process of resolution. In the case of aseptic trauma, the response is chiefly an effort to resolve injured tissue and protect denuded serous surfaces. In the presence of a vigorous, primary, peritoneal response, sufficient fibrin and lytic ferments are present to accomplish speedy, complete resolution, thus avoiding a large amount of adhesion formation. All too often, in the absence of a heavy fibrinous deposit, this protection is accomplished by the healing of one denuded surface to another with resulting dense adhesions. Where the substance introduced is an irritating chemical, the peritoneal reaction is more in the nature of a transudate and appears to be an attempt to dilute and neutralize the irritating effect of the chemical.

The peritoneal exudate produced in response to infection, whether extensive surgical trauma be present or not, is usually rich in white cells, fibrin, antibodies, opsonins, lytic ferments and, presumably, many other unknown elements which influence the processes of defense and repair. Unfortunately, by the time this normal reaction is present in force, the infection has gained such headway that it is difficult to stop and the outcome is frequently fatal. This is especially true if infection occurs in the presence of extensive trauma or an irritating chemical substance. Also, in the case of chemical irritation, the excessive amount of transudate prevents localization and permits the peritonitis to become generalized.

It follows then, that any harmless substance, capable of inducing the early production of a peritoneal exudate, similar in character to that produced in response to infection, may well be employed to mobilize the defense mechanism of the peritoneum in anticipation of the possible development of infection. Furthermore, since this type of exudate is usually rich in fibrin, lytic ferments and phagocytic cells, early protection of injured surfaces is afforded and resolution is much more active and complete. In this manner, the incidence of postoperative adhesions is markedly reduced.

Such is the action of amniotic fluid concentrate on the peritoneum. These results may be accomplished when this agent is introduced on closing the abdomen, at the completion of the operative procedure, or when introduced eight to twelve hours preoperatively, as a special precaution in cases of anticipated operative contamination.

Many clinicians are confused as to the relative merits of operative and preoperative introduction of this agent. Previous to Young's work[2] on preoperative instillation in colon re-

*Grateful acknowledgment is made to the Eli Lilly Company for a generous supply of their commercial amniotic fluid concentrate, Amfetin, which has greatly facilitated the carrying out of this work.

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section, all cases received the concentrate at the close of the operation. The speed with which the reaction to this substance reaches its optimum makes operative introduction adaptable for routine use. In selected cases, however, such as colon resection, panhysterectomy, etc., where contamination of the peritoneum is anticipated, additional protection may be gained by preoperative instillation. In this manner, mobilization of the local defense mechanism is accomplished before opening the abdomen.

Our knowledge of the probable mode of action of this agent is based upon observations on clinical cases and laboratory animals over a period of twelve years. While the early exudate pictures in peritoneal stimulation and irritation may be somewhat similar, they must not be confused in their immediate and remote effects. In the experimental animal, at least, there seems to be a stimulation threshold beyond which one cannot go without causing irritation. The level of this threshold shows a wide individual variation. For instance, the exudate which usually comes down in response to stimulation by amniotic fluid concentrate is faintly pink in color showing the presence of very few red blood cells or desquamated mesothelium. In a certain number of animals, however, in which this agent was employed, a more hemorrhagic type of exudate was induced by the standard dose. It may be assumed that these animals had a low stimulation threshold which was slightly overstepped by the usual dose of this product but, at no time, was a heavy hemorrhagic exudate noted in response to the use of amniotic fluid concentrate. This same variability was noted even in the use of normal saline solution, the mildest of all the peritoneal stimulants.

In the case of the more vigorous stimulants, such as bacterial vaccines or chemicals, a hemorrhagic exudate is the rule. Roughly, one may take the amount of hemorrhage in the exudate as a measure of the extent of peritoneal irritation where no other source of hemorrhage can be found. If we consider the clinical picture in conjunction with our local observations, we get an even more accurate estimate of the irritating effect of a given agent. Pain, anorexia, malaise and a sustained high white count, both local and general, are suggestive evidence of peritoneal irritation.

That this irritation does not always destroy the ultimate protective effect of the primary stimulation is evidenced by the end results in the use of the bacterial vaccines[3]. One notes, however, at the end of the immunizing interval, where bacterial vaccines are used, that the exudate shows a marked preponderance of large wandering cells, so-called histiocytes or macrophages. These cells are attracted chiefly by the chemiotactic effect of dead tissue and their presence, in large numbers, usually marks the stage of resolution.

Amniotic fluid concentrate is intended primarily for use in the peritoneal cavity. In this field only, have we accumulated sufficient data to establish its value as a stimulator of local immunity and repair. In a small number of clinical and laboratory cases its use in the pleural and joint cavities has shown it to be highly effective as a stimulator of the defense repair mechanism. The topical application of this agent to areas of extensive trauma occupies the same status as its use in joints and the pleural cavities. Experimental and clinical trial will be continued in these fields with a view to reporting upon our observations at a later date.

In the case of colon resection, where the postoperative mortality from peritonitis is usually quite high, the preoperative introduction of 100 cc. of the concentrate, eight to twelve hours before operation, gives additional protection by providing an optimum peritoneal reaction at the time that infection is likely to take place through operative contamination.

The immediate postoperative convalescence of a patient in whom amniotic fluid concentrate has been used, operatively or preoperatively, is characterized by early cessation of nausea and vomiting, lack of abdominal distention, prompt resumption of peristalsis, and early disappearance of local tenderness and pain. Adynamic ileus is seen only in cases of exceptionally severe peritoneal trauma and then in a much milder degree than in the untreated cases.

The amount of amniotic fluid concentrate to be used in each case depends upon the type and severity of the operation and the size of the abdomen to be treated. For operative introduction, the dosage ranges from 25 or 50 cc. in children to 300 cc. or more in the adult. Kimpton[4] reported a case in which he used 500 cc. with excellent results. Any dose above this amount is unnecessary and may cause harm from sudden, increased intra-abdominal pressure. In simple cases of abdominal surgery, where the procedure is definitely localized, such as appendectomy, oöphorectomy, etc., 100 cc. is usually sufficient. In more extensive operations, such as hysterectomy, cesarean section, bilateral salpingectomy, enterostomy, bowel resection, etc., the use of 200 to 300 cc. is indicated. In the case of cholecystectomy, where routine drainage is employed, it will be found that any amount in excess of 75 to 100 cc. will return around the drain. Where the method of preoperative instillation is to be employed, the dosage is smaller and varies little. This technique is reserved for cases where the postoperative mortality from peritonitis is notoriously high. In such instances, 50 to 100 cc. of the concentrate is introduced eight to twelve hours before operation.

Amniotic fluid concentrate, in the original containers, should be immersed in alcohol for at least thirty minutes before use. The full,

unopened containers are passed to the sterile nurse just as one would handle suture tubes. The process of opening the container is thus carried out under a rigid aseptic technique. The quantity selected for use in the case at hand is poured into a wide mouthed metal or glass container which is partly immersed in a warm water bath. In this manner, the temperature of the concentrate can be raised to a point slightly above that of the body before being introduced. This technique is common to both operative and preoperative instillation.

If the case is to receive preoperative immunization, a site to the left and slightly above the level of the umbilicus is selected and the usual process of skin sterilization applied. Local anesthesia is injected into the skin and along the proposed route of the intraperitoneal trocar.* In the event that this latter instrument is not available, an 18 or 20 gauge spinal needle may be used. In the introduction of trocar or needle, care must be exercised not to introduce the instrument beyond the point of entering the peritoneal cavity. Where the needle is used, every caution must be taken not to lean on the plunger of the syringe during introduction. Otherwise, the needle may be unconsciously pushed deeper into the abdomen and cause visceral puncture. Where the trocar is used, an adjustable shield helps to protect against such an accident.

The warm fluid should be introduced slowly to allow plenty of time for dissemination by the respiratory excursions of the diaphragm. In this way the distress of local accumulation may be avoided. Where the concentrate is to be introduced at the close of the operation, the tip of a small soft rubber catheter is introduced through the aperture of the final peritoneal stitch and a single knot of the suture pulled snugly around it. The selected quantity of the agent is introduced through the catheter by means of a large syringe. The catheter is then cautiously withdrawn and the knot tied quickly to avoid waste of the material by spilling. The abdominal wall is closed in the usual manner. In cases where routine drainage is employed, such as cholecystectomy, the catheter may be introduced beside the drain and the wound completely closed around both before introducing the fluid. If instillation is done slowly, allowing for dissemination by respiratory excursions, a fair amount (75 to 100 cc.) can be injected before it begins to well up around the drain. Instillation beyond this point merely wastes the product.

*A special intraperitoneal trocar has been devised for this purpose with a view to making safety and convenience of introduction paramount. It will soon be available under the name of: Faulkner Intra-peritoneal Trocar.

SUMMARY

The source and preparation of amniotic fluid concentrate give assurance of its purity and safety of use.

Its action on the peritoneum is to stimulate the production of a defense exudate similar to that laid down in the presence of infection. In this manner, it accomplishes an early peritoneal immunity, giving a maximum of protection with a minimum of physiological disturbance.

Its use is especially indicated in surgical procedures of the peritoneal cavity involving widespread trauma or contamination.

Operative introduction may be practiced routinely in all primarily clean cases of abdominal surgery. Preoperative instillation is usually reserved for cases which are reputed to have a high mortality from postoperative peritonitis.

Dosage ranges from 50 cc. to 300 cc. depending upon the method of introduction, the nature and severity of the surgical procedure and the size of the abdomen. The dosage for preoperative instillation is 50 to 100 cc. eight to twelve hours before operation. An intraperitoneal trocar or spinal needle (18 to 20 gauge) may be used to accomplish preoperative instillation.

This communication is offered as a brief exposition of the source, preparation, action and indications for use of amniotic fluid concentrate and to assist in establishing a better understanding of the basic principles of peritoneal immunization.

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YOUR PROFESSION AND SOCIETY*

BY JOHN A. HARTWELL, M.D.†

IF I fail in presenting to you this evening something that is worthy of your consideration, you must place the blame upon Dr. Cutler. He is possessed of a personality of such charm and such persuasiveness, accompanied by the gift of subtle flattery, that it was against my better judgment when I finally accepted his invitation to talk to you on this occasion. He held out several reasons as to why this should be an easy thing for me to do, and told me of the things that I know which you would enjoy hearing, until finally I succumbed and now find myself before you.

That, however, was some months ago when

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the actual moment seemed so far away that I could contemplate it with a certain amount of equanimity. As the months lessened into weeks and the weeks into days, before the actual occurrence should take place, my feeling of dread at what I had undertaken became more and more acute. This is not because of any lack of appreciation of the opportunity to discuss some of the present-day problems with those who are about to enter upon the profession which has been mine for so many years. Rather it arose from a knowledge of the fact that it is with extreme difficulty that any one translates into language which can be of benefit the accumulated experience of long years.

Naturally I am desirous of saying something that will not only be of interest, but also will be helpful, and in doing this I have turned to those in the past who have spoken with authority and influence, for example Sir Thomas Browne in "Religio Medici." To read the words of such men is stimulating, but it is also the cause of genuine humility, as it is only given to the rare person to be able to put thoughts into words which will be of real value. Possibly I could do no better than simply to urge upon you to read what has been written by the many leaders in our profession throughout all time. Undoubtedly the pressure under which one labours in this day makes it difficult to do this, and one is led by the necessity of following the rapidly changing current events, rather than by the wisdom of delving into that which has gone before and which finds expression in the accumulated writings of those observers who have become household words among us.

It is trite to say that there are to be found in the lessons of such masters wise thoughts that are of the utmost value day by day, and yet it is a lesson that too few seriously take to heart. After all, there are not so many fundamentals of great value which are new, that we need be overwhelmed by them at the expense of what is old. There is hardly a more important lesson that could be learned by those of you who are about to launch upon your life's work than that you should fill your minds with those truths which are not new, but are old, tried and of proved worth.

This truth is equally applicable to the topic which is to receive our attention to-night, namely, the relation of your profession to society, as to more practical and scientific matters. To you no less than to those who are already of our profession, there is an interest in determining what is the relationship which unites us to, or differentiates us from, our fellows. That there are strong forces at work testing the security of the world's hold on its own destinies cannot be doubted. That these forces affect the physician and his profession equally with all others and their activities is beyond question. For these reasons it is imperative that we review our own position, and chart the course to be pursued.

There is a disturbing feeling that adverse conditions are threatening the individuality of the doctor. This feeling is engendering fear, and fear is never a sound foundation upon which to meet a danger or construct an edifice. Viewing these things, it seems wise to look into the past and find if possible inspiration which will send us forward with confidence, in meeting the changed conditions of to-day.

That the physician and his profession are held in especial relation to society cannot be questioned. It has been the subject of written and spoken word from the time when the Greeks in the midst of the Trojan battle, at the wounding of their physician, Machaon, called upon Nestor, "Haste, mount thy chariot, let Machaon take a place beside thee. A man like him is worth a host of us." It recurs on down through the years, in prose and poetry, in comedy and tragedy. It is shown in daily intercourse and conversation. You as medical students have begun to sense it. When you subscribe to the Hippocratic oath, which I trust will never be dropped from association with the granting of your diplomas, you will pause to ask why we, rather than the lawyer, the engineer, the businessman, the aspirant for advancement and honor at the hands of the State should be asked to give so liberally. The young in our profession are learning it day by day, and to the old it is so complete a part of their being that it is accepted without question as to whence it comes or why it is.

But we as beings differ not one jot from our fellows. We all started at scratch and followed the same course until we diverged from others in our early studies and followed the sciences leading into the field of biology, while they turned to mathematics and the physical sciences, or to cultural paths and jurisprudence. From that day we were surrounded with the mysteries of life and death,—the knowledge that in this lies the essence of all the universe. What is life? What is death? Wherein does the one differ from the other? Is there a body only or is there a soul, call it what we will, within the body? Not that these were our daily thoughts or our conscious questionings. Nevertheless they were there, and were shaping us into that mold which in some subtle way is the substance of wherein we ourselves and society set the doctors apart.

While still students you have been called upon to witness and be partners in those things which belong solely to our profession, things of such a nature as to leave an indelible impression, and of which you think with reverence and hesitate to speak as one speaks of the casual happenings. Read "Rab and His Friends." As can be testified to by those who have only re-

cently preceded you, and with far deeper feeling by those who have grown old and gray—but never hardened, rather more tender in the service—these experiences will be a part of your daily lives, and the place of life, of death, of the body and the soul in the universe, will be your constant companion.

These things were always so, from the earliest time, and while our methods of becoming doctors have constantly and greatly changed, these factors have not changed. Thus in all time the physician is set apart and as Homer tells us, the fighting men of Greece recognized his especial worth.

Let us see how this differentiation has been translated into action. The State has never claimed any especial privilege over the medical profession. But the medical profession has traditionally accepted the right of society to regulate it, and in fact has been a leader in formulating the needed regulations. This tradition found actual expression as early as the Babylonian civilization, when, twenty-two hundred years before Christ, Hammurabi incorporated, in his compilation of the laws, regulations governing the practice of Medicine. At that early date, the doctor was called upon to regulate his fees in accordance with ability to pay, a sliding scale not dissimilar to that which has been the accepted procedure to our own time. The oath as prescribed by Hippocrates in the fifth century B.C. placed upon the doctor an ideal outlook to which he has been expected to adhere ever since.

The earliest record that is found cited in Garrison's "History of Medicine" of an actual license to practice medicine occurred in the Emperor Frederick II's edict in 1224. This followed the establishment at Salerno of a school of medicine, the earliest of its kind, and a candidate for license was examined in public by the masters at that school. The candidate was required to have studied logic for three years, medicine and surgery for five years, and to have practiced for one year under some experienced physician. The candidate in surgery had to give evidence that he had studied the art for at least a year, in particular anatomy. The physician was required to treat the poor for nothing, to visit his patients twice a day and once a night if necessary, to avoid collusion with apothecaries and inform upon them if they adulterated or substituted drugs.

The medical fee was fixed, amounting to about 35c for an office visit or for a house visit within the city, and approximately $3.00 for out-of-town visits, but in this case, the physician must pay his own expenses. The sale of poisons, magic potions and aphrodisiac philters was punishable by death if any person lost his life thereby. It is further noted that foods, drugs and apothecaries' mixtures were examined at stated intervals by inspectors and timely regulations were made in municipal and rural hygiene.

Garrison comments, "Given the time at which it was issued, it would be hard to improve upon the plain scope and intention of this law, which was followed by similar ordinances for Spain (1283) and Germany (1347), and was again confirmed by Joanna of Naples (1365)."

This edict was a strong factor in raising the status of the physician above that of the then numerous quacks and charlatans.

Two centuries later the Royal College of Physicians of England adopted the Statuta Moralia for the practice of Medicine.

About 1790 Sir Thomas Percival formulated a Code of Medical Ethics for the guidance of his son, which has become the generally accepted standard of ethics governing the relation between doctors themselves and their patients and society.

It is interesting to note that there is often recognized that line which divides the practical interests of the doctor from that of the patient in the question arising from the care of the latter and the remuneration to be received by the former. This is summed up as follows by Leake in the 1927 edition of Percival's "Medical Ethics", "The fundamental ethical question of the medical profession thus arises: If physicians have a pecuniary interest in treating the ills of humanity, can they in honesty really desire to see mankind in perfect health? Ideally, the answer is 'yes'; hedonistically, it is 'no'; and actually society has found it necessary to interfere by law to safeguard the interests of both. This has usually been done by enacting fee codes and by requiring a certain standard of training and skill before granting permission to practice medicine."

Fite in "The Study of Ethics" expresses a similar thought as follows: "In all the professions there is a certain felt divergence between the demands of professional honour, and intellectual integrity and the conditions of professional work, and a man who should give unyielding and absolute devotion to honour would not be able to maintain his position. . . . For the physician the strictly scientific practice of medicine leads often in one direction, the condition of remuneration in another."

Thus it is recognized that ethically and practically there may be a constant warfare within the doctor's orbit. Tradition teaches that ethics shall prevail. To-day we are faced with the problem of abiding by tradition or descending into the market place. If we choose the latter, we must be of the market. If we choose the former, we must remain under the protection of professional ideals.

That cynical philosopher, George Bernard Shaw, in his preface to *The Doctor's Dilemma* states, "As to the honor and conscience of doc-

tors, they have as much as any other class of men, no more and no less."

If this statement be true, the medical profession does not stand in a peculiar relation of responsibility to the state. Those who have read *The Doctor's Dilemma* and particularly the Preface thereto, cannot have escaped a feeling of resentment at the cold-blooded way in which Bernard Shaw analyzes the weaknesses of the doctor who is called upon to meet an emergency of illness and at the same time recognizes that he must be remunerated for this service.

We cannot on the other hand escape the fact that doctors, despite the forces that are at work to mould them into a form of their own, and despite the tradition of ideals which is their heritage, are still human, and need the power of ideals and tradition if they are to live up to the high estate which the great and good among them have so continuously placed as the goal.

The Principles of Medical Ethics of our national Medical Association opens with this statement: "A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals."

After formulating precepts of conduct, the Principles conclude with the following: "While the foregoing statements express in a way the duty of the physician to his patients, to other members of the profession and to the profession at large, as well as of the profession to the public, it is not to be supposed that they cover the whole field of medical ethics, or that the physician is not under many duties and obligations besides these herein set forth. In a word, it is incumbent on the physician that under all conditions, his bearing toward patients, the public, and fellow practitioner should be characterized by a gentlemanly deportment and that he constantly should behave toward others as he desires them to deal with him. Finally, these principles are primarily for the good of the public, and their enforcement should be conducted in such a manner as shall deserve and receive the endorsement of the community."

These principles embody the essentials of all similar codes previously put forward from the first days of organized medical practice. They have gained the force of law. In a decision made by the United States Supreme Court, Mr. Justice Brewer states, "The physician is one whose relations to life and health are of the most intimate character. It is fitting not merely that he should possess a knowledge of diseases and their remedies, but also that he should be one who may safely be trusted to apply those remedies. Character is as important a qualification as knowledge."

An address was given by the Honorable Joseph V. McKee on the occasion of the Anniversary Discourse of The New York Academy of Medicine a year ago entitled "Medicine and Modern Sociological Trends." After an unusually able presentation of the development of medical practice through the times, somewhat impressive to a doctor in that it shows the broad knowledge of our profession which is possessed by a layman, Judge McKee closes with this declaration: "This is the dedication, the consecration of the physician to the ideals of his profession. But more than that is asked of him to-day. With these great sociological movements under way and even at fruition, it calls on him not merely to complain, not merely to disagree, not merely to debate but to find a fuller and a freer and a greater place for medicine, not only in the curing of human ills but in the great régime to make life better and happier and nobler—to bring to humankind some of the happiness on earth that the elect expect of heaven."

Professor Sigerist, the Medical Historian at Johns Hopkins University, last year delivered an address on "The Physician's Profession Through the Ages." In a masterly way he followed the duties and the responsibilities of the doctor to the state and showed inferentially at least that they do have a peculiar responsibility. His address closes with the following: "The history of the medical profession to-day has reached a crucial point, and it is our duty to save the efficiency of a noble profession, that not only has a great past, but a still greater future. Never before has society presented the physician with so wide a field of activity and with so much influential power. If never before, certainly to-day the doctor may become a statesman, the Asklepios Politikos visualized by Plato."

It is our concern to determine how this may be done and how we shall discharge the peculiar responsibility imposed by long-established tradition upon our noble profession.

The first need is that we steep ourselves in this tradition with a determination that the heritage which is ours be in no way sullied, and that we are controlled in our activities by a feeling that life is worth the living only if by our efforts and in accordance with each one's endowment some betterment of the enjoyment of life is accomplished. We are called upon to place ourselves in accord with those who believe that the remedy for the terrifying condition in which the world now finds itself lies in an acceptance of spiritual values rather than material.

If there be within our profession those who are not stimulated by a feeling of obligation to live in accordance with this heritage, it is our bounden duty to see that such are made to conform to the spirit of the high ideals of medical practice. Our oath has lost none of the force

it possessed when it was promulgated, more than two thousand years ago.

The prime obligation of the doctor to the state, then, requires that he be an example in act and teaching to the fact that he is called upon to render service, thinking first of the value of the service rendered and after that of the remuneration to be received therefor, which is the privilege of being ranked as a member of a learned profession.

To do this at this time presents one of the most serious problems that has ever faced the medical profession. The attractions of the market place are strong. The practices of the market place are not becoming to those who were moulded by studies of life and death, who experience daily contact with the body and its soul and who are called upon to minister to those when most in need of tenderness, understanding and singleness of purpose. Should our profession fail to recognize the canker of mercenary wickedness in its numbers and wage battle against it, we are doomed as the Beloved Physician. To shield those who, because they belong to our guild, have debauched our laws for the care of the unfortunate, is a sure path to suicide or worse. To step aside when we see the money changers in the temple of the sick room is not to fight the good fight.

You young men will be face to face with such things in the near future. Would that we, your elders, could say that we have fought as courageously as you must fight if victory is to lie on the side of high ideals and a noble heritage.

Do not blink the fact that the scandal of the operation of our compensation laws for employees in some states could never have arisen except that a doctor is found somewhere in the circle of vicious practice. That contemptible practice of fee splitting will be flaunted in your faces as a necessary evil almost universally accepted. Do not believe it. It is far from that. Fight it, expose it, bring it into the open. Make the public cognizant of its ugly features.

Live up to the finer feelings that are yours as you go on your daily rounds, making life happier for those to whom you minister, and align yourselves with those who recognize the ideals of the traditions of medicine.

Let us live up to the standards already quoted from our national code of ethics. "A profession has for its prime object the service it can render to humanity: reward or financial gain should be a subordinate consideration."

That there exists a counter-responsibility on the part of society to see that in following these paths the doctor's lifeblood is not sapped and that a procedure is set up whereby he may enjoy a life commensurate with the effort and strength, the sincerity and devotion that he expends for the benefit of society cannot be gainsaid. If my reading of the times is correct, in spite of all the carping and criticism that is aimed at the medical profession, society does recognize this obligation and if we rise to our opportunities, we may do so with a faith that our existence will not be jeopardized.

If, however, we adopt a course of stiff-necked blindness to the needs of the world and a willingness to consider that our own interests are paramount to those of others, we will find forced upon us conditions that will be neither to our advantage nor to that of society.

That tragedy is among us is shown by a letter which appeared in a medical publication recently. There, one who had accepted the spirit of the tradition we have discussed as the cornerstone of his responsibility, fought valiantly to uphold it and failed—failed because in it there was not the power to meet the needs of life and dependent ones. He was not afraid at having broken the law but at having "deeply wounded that something—tradition—the ideals and concomitant aims that go with our diplomas."

And another physician signs his name to a letter saying that the splitting of fees is all but a universal practice in his experience and that it is not uncommon for the doctor and the consultant to decide upon an operative procedure solely so that both may participate in the expected fee.

When such things can be, no one can doubt that some remedy must be found and all must bear a share in creating a relationship that will not permit such despair to drive a doctor to a sacrifice which thus excoriates his soul, or such contemptible practices to arise from cupidity.

As you are aware, many factors are at work to formulate a method of medical practice which it is hoped will bring better medical service to the sick than is now obtained by many who are handicapped by lack of knowledge of where to turn, and lack of funds to meet the expense of sickness. That many of the proposed plans are without promise of success and socially unsound cannot be denied. That some seriously threaten the security of the doctor is undoubtedly true, and it is these that have engendered a fear—an almost paralyzing fear, which has resulted in the profession presenting an almost solid front against any change.

The President has included in his social security program a medical aspect and it is within this and the activities of socially-minded bodies that the doctors consider themselves especially menaced. At first glance, any organized effort on the part of society to set up a method whereby sick individuals shall receive medical care, except in the long-established way of seeking it out for themselves and arranging for it by a personal agreement between the patient

and a member of the medical profession, appears to many to threaten seriously the very foundation of professional life.

Upon careful study and thoughtful consideration this threat does not seem to be serious provided we as a profession will recognize the necessities of the case and meet them squarely. We cannot escape from the general proposition that it is our desire to see that every ill person receives the best available medical care. Again, we are inevitably faced with that clash between the ideal and the practical to which reference has been made as having been recognized from the earliest days of medical practice. We gladly face our obligation to society because it is founded upon the tradition which we revere. In accepting this responsibility, we are met with the requirements of our own needs and the solution whereby these two may be reconciled is not easy.

The thought which I would place as uppermost is that the medical profession is amply equipped to face this problem and find its proper solution if it will but recognize the necessity of so doing. The profession is only now giving the requisite thought to the changing trends of which Judge McKee spoke, and it has hardly yet awakened to the significance of these trends with the determination to recognize them and find ways whereby all our people may have adequate and efficient medical care in their illnesses. With proper effort we may prove ourselves the "statesman in a wide field of activity and great influential power" in the words of Dr. Sigerist, and this effort is now demanded of us.

Much that we wish to solve would be made the easier if a greater concern over the welfare of the newly created doctor were put into practice. Neither the granting of a degree to the well-equipped graduate in medicine, nor the placing of the seal of approval of the state upon his efforts by a license to practice his profession, fufill our duty if we covet the best of which he is capable.

It was less the medical profession itself than outside influences which inaugurated the great improvement in the education offered by our medical colleges thirty years ago. It is not to our credit that the education of the doctor thereafter has received so little attention from us during these three decades. It is our concern to see that the improvement in the medical undergraduate training gains its full fruition by affording means of further education to the doctor after he has received his degree.

We are fully aware that in many instances the internships in our hospitals, which represent the second step in education, are of far less educational value than they should be. In fact, it has been said by one of our most eminent undergraduate educators that in many instances the young doctor has lost something of great value at the termination of his internship which had been in his possession at the time of his graduation. He referred to the painstaking care with which the student approached any problem, scientific or clinical, which had been inculcated into him in his student days. With the loose, hurried, unconsidered methods employed in some of our hospitals, the intern adopts short cuts and less orderly thinking than have been his previous habit. And even more disturbing is the testimony of interns that in some instances they are inducted into habits of low ethics and violation of honest behavior.

It is heartening to know that a serious study of this situation is now being made in one of our cities under the able leadership of a group including the medical school deans and others named by the leading hospitals and leaders in education. It is to be hoped that this particular responsibility will be met in such a way that within a reasonable time the interns will receive excellent training in medicine and its ethics, comparable to that which they have received in their undergraduate work.

Even when this is accomplished, our needs in this especial phase will not be met until we go a step farther and provide for the continued education of these same young doctors.

There are at our disposal unequaled educational advantages which are largely going to waste while at the same time there is a group of earnest young men and older ones, too, who would only too gladly avail themselves of these advantages were the proper procedure set up.

The enthusiasm with which doctors at the present time grasp opportunities indicates the gross waste which occurs unless all our facilities are fully utilized. Let each bear his share in accomplishing this.

There is another direction in which our obligation to the state is becoming more and more clearly indicated year by year. This has to do with what is ordinarily considered as falling within the domain of public health. At first sight, there is always a clash between the interests of the public as seen in the activities of our health departments and the practising physician.

It is with a sense of shame that we recall that when Dr. Hermann Biggs wished to make a real advancement of the public health interests, he was opposed by The New York Academy of Medicine, a sin which in so far as may be, has been expiated by a whole-hearted support of all public health activities by that institution in subsequent years, with, at the same time, due consideration to the proper interest of practising physicians.

I have made an effort to present the basis for a belief that the doctor does stand in a peculiar relation to society and that this relation places upon him an especial obligation. Only brief mention of the various directions in

which this responsibility may be discharged has been made. Much could be said of any one of the subjects—the ethical standards of the doctor, his education, his relation to public health activities or the part that he must play in encouraging efficient methods of medical practice.

It has seemed more important to lay a sound foundation for the belief that there is great value in the traditions which a noble profession through the centuries has built up for its guidance and sanctification. These traditions are endangered by the ever-growing influence of practical expedient. Woe unto us and to the society we serve if the doctor become no more than a barterer in human health and life!

The privilege and the duty to be numbered with those whose names are blessed lie in our hands, and to be blessed is more than the riches of all the world or than life itself.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR FEBRUARY, 1935

MONTHLY REPORT FOR FEBRUARY, 1935

Disease	Feb., 1935	Feb., 1934	5 Yr. Average*
Anterior Poliomyelitis	2	0	2
Chicken Pox	1202	1157	1099
Diphtheria	42	27	159
Dog Bite	506	356	298
Epidemic Cerebrospinal Meningitis	2	6	8
German Measles	1907	57	126
Gonorrhea	360	416	470
Lobar Pneumonia	475	550	585
Measles	2098	8635	3077
Mumps	290	487	755
Scarlet Fever	724	971	1444
Syphilis	379	350	339
Tuberculosis Pulmonary	332	194	296
Tuberculosis Other Forms	38	31	36
Typhoid Fever	1	9	7
Undulant Fever	3	0	0
Whooping Cough	817	1273	956

*Based on the figures for the preceding five years.

RARE DISEASES

Anterior poliomyelitis was reported from Shrewsbury, 2.

Encephalitis lethargica was reported from Westford, 1.

Cerebrospinal meningitis was reported from Fall River, 2.

Malaria was reported from Boston, 1.

Septic sore throat was reported from Arlington, 1; Boston, 1; Gardner, 1; Leominster, 1; Lynn, 1; Melrose, 1; Revere, 2; Waltham, 9; Winchester, 1; total, 18.

Tetanus was reported from Weymouth, 1.

Trachoma was reported from Amherst, 1; Boston, 1; Pittsfield, 1; total, 3.

Trichinosis was reported from Boston, 1; Brockton, 2; Georgetown, 2; Greenfield, 6; Reading, 11; total, 22.

Typhus fever was reported from Chelsea, 1.

Undulant fever was reported from Holden, 1; Somerville, 1; Worcester, 1; total, 3.

Diphtheria continues to give evidence of maintaining its downward trend with reported morbidity to date running twenty-two per cent lower than last year.

Typhoid fever reached a record-low for all time with but one case reported for the month.

Tuberculosis showed an increase in reported incidence over both the previous year and the five-year average.

German measles had its greatest prevalence since April, 1918.

Measles, epidemic in a few communities, is low for the State as a whole.

Scarlet fever and whooping cough are running lower than in 1934.

Trichinosis was reported in twenty-two instances, chiefly in two family outbreaks where improperly cooked homemade sausage had been consumed.

Lobar pneumonia, epidemic cerebrospinal meningitis, anterior poliomyelitis, mumps, chicken pox, and tuberculosis other forms show nothing remarkable.

VERMONT STATE MEDICAL SOCIETY

THE PROLONGATION OF LIFE*

BY HENRY D. CHADWICK, M.D.†

A DOCTOR'S life work has always been a most interesting one, but never more so than at the present time. The recent graduate now begins his professional career at about thirty years of age, much better prepared than ever before. The *Journal of the American Medical Association* reports that 3209 doctors died in the United States in 1933 whose average age was 64.4 years. This is an increase of about four years since 1905. We may conclude, therefore, that a young physician when ready to practice may now look forward to a professional career of about thirty-five years. The type of practice, however, that lies before him will vary greatly from that followed by his predecessors who began their work thirty-five years ago. At the beginning of this century we knew the specific cure for rabies, malaria and diphtheria, and in 1910 a cure of syphilis was added to the list. Specific treatment is now available for the control of diabetes, pernicious anemia, and Addison's disease. These are the outstanding accomplishments in the field of medicine, but they represent the results of centuries of search for cures of disease.

The efforts made to prevent disease have yielded much richer returns. No longer do we fear widespread epidemics as most of the infections that caused them have been brought under control. The decrease in infant mortality, the prevention of infectious diseases in children, together with the lower birth rate, have resulted in a decided shift in the character of the population in respect to age groups. The average age of the population in Massachusetts in 1870 was 28 years; in 1930 it was 31 years. The population over 50 years of age has increased from 12 per cent in 1850 to 20 per cent in 1930. The average span of life has been increased in two generations from 31 years to 53. In a study made by Bigelow and Lombard[1] of the records of 30,000 individuals under 40 and 45,000 over 40, 3.4 per cent of the younger group and 27.1 per cent of the older group were sick with chronic disease. They conclude that based on these figures there are approximately one-half million individuals sick with chronic disease in Massachusetts at one time. They find that fifty years ago chronic disease caused one-third and now it accounts for two-thirds of all deaths. As to duration, they find that the average cancer case lives two years, the heart case seven to nine years, while the rheumatic lives fourteen years or more; also, that heart disease only cripples half as long as rheumatism and is only half as prevalent. Rheumatism, according to their findings, cripples the largest number of cases, kills the smallest, and is in the lead of all other chronic diseases as of preëminent social, economic and medical importance.

The medical profession should be interested in knowing what treatment this large group of individuals with chronic disease is receiving. Nearly half of all the cases were reported as having received no treatment or only self-medication during the year. This group ran from one-eighth of the diabetics to two-thirds of the rheumatics. The reasons given were that 60 per cent felt that doctors could not help or they had no faith in them, 30 per cent thought their condition was not serious, and 10 per cent gave economic reasons.

The work of physicians, therefore, in the future will be concerned more largely with the prevention of communicable disease in children, of chronic disease in adults, and the palliation of degenerative conditions incident to the aging population. In the realm of chronic disease, its prevention and alleviation, is an undeveloped field worthy of the best efforts of the physician. Faith in the science and art of medicine must be reëstablished in the minds of the people. The art of medicine has been neglected and the cold scientific viewpoint of doctors has tended to create a skepticism which must be overcome. No wonder the arthritic loses confidence when his physician, without much study of his case, leaves a prescription which is often only a placebo and by his lack of interest gives the impression that he does not want to be bothered with such cases. Some of the leaders of medicine have told me that in their own practice by rest, good hygiene, simple therapeutic procedures, regulation of diet, and removal of focal infections, 70 per cent of early cases of arthritis can be cured or kept from developing into chronic crippling conditions.

This is a challenge the profession must meet. Thousands of people are in need of such help, and physicians must be ready to give it so that confidence in the medical profession may be restored and retained. What I have said in regard to arthritics should be applied to all chronic disease. The medical care of these conditions has been given too little study and attention and has resulted in a great many patients receiving no treatment at all, or they have resorted to the cultist and the charlatan.

*Read at the Annual Meeting of the Vermont State Medical Society at its Annual Meeting in Burlington, October 4, 1934.

†Chadwick, Henry D.—Massachusetts Commissioner of Public Health. For record and address of author see "This Week's Issue," page 582.

Furthermore, why should physicians neglect their opportunities in the field of preventing communicable disease? If the professional ethics of the past era have restrained them from offering this service, those ethics had better be revised to conform to modern standards. Because of the failure of physicians to do their part, public health authorities have had to assume the burden of immunization against diphtheria and to a lesser degree against smallpox. This activity will be relinquished gladly to the physicians whenever they are ready to assume the responsibility. Boards of health are required by law to care for and prevent the spread of communicable disease. Until the physicians take over the work they must continue to see that it is done in the least expensive way out of public funds. Physicians should take an extremely active interest in preventing disease in the children of the families that employ them. A passive attitude will not accomplish the desired result.

We will now discuss in some detail the disease prevention service that a physician may properly perform in the course of his general practice:

Diphtheria. Every baby when six months old is a candidate for toxoid. The sooner it is done after that age the safer the child will be, as 65 per cent of all deaths from diphtheria occur under school age. Children for that reason should not wait for school age to have this protective immunization provided. Diphtheria deaths have decreased to a remarkable degree but the case fatality is still high, notwithstanding the use of antitoxin and recently it shows a tendency to increase. We have in our power the complete subjugation of diphtheria through the general immunization of infants. To-day a case of diphtheria developing in a family that look for advice in health matters to their physician is a reproach to the doctor if he has not done all in his power to immunize the child. Doctors should not let this duty go by default or leave it to the health officer.

Smallpox. Vaccination should also be done in the first year of life as a routine procedure. It is customary in some public maternity hospitals to vaccinate the infants before they are discharged from the institution. When vaccination is delayed until school age, more discomfort is caused and more resistance to the procedure is made by the child. The great value of vaccination has been proved and should need no argument or defence. In Massachusetts, where vaccination is compulsory for children entering public school, no case of smallpox has been reported in more than two years.

Scarlet Fever. Much has been accomplished toward producing immunity to this disease by the use of scarlet fever toxin. The use of toxoid is less likely to produce reactions and has been effective in preventing scarlet fever in hospital nurses and the patients in some of the Massachusetts institutions for the care of children. The prompt use of scarlet fever convalescent serum will prevent secondary cases from developing in children who have been recently exposed. This method of control will to a large extent obviate the necessity of hospitalization of patients for reasons of quarantine and thus save many times its cost.

Measles. This is one of the diseases that few escape. Although considered a mild affliction, many children die from this disease each year. Over 90 per cent of fatal cases occur during the first five years of life. Therefore, the disease should be postponed whenever possible. Convalescent serum is of value but difficult to obtain and is usually not available when needed. Parental whole blood is sometimes used as a substitute but is not so reliable. McKhann of the Boston Children's Hospital has developed an extract from human placentae that promises to give us a very effective weapon for the control of measles. This extract has the advantage that it can be made in sufficient quantity for general distribution. The amount of antibodies that it contains may be quite accurately determined and if the time of exposure of the child is known an attack may be prevented or modified quite at will by administering the dose at the proper time.

Syphilis. There is an important field for the physician in the prevention of congenital syphilis that is too little realized. Stillbirths, premature births, blind children, and those with mental and physical deficiencies due to this cause are all too common. The physician has a great responsibility when he is engaged to care for a pregnant woman. As a part of his routine examination in every case and as early as possible in pregnancy a serological test for syphilis should be made. This disease knows no social barrier and therefore no exceptions should be made. From the National Health Council recommendations the following is quoted:

> "At least 2 per cent of the children of the United States have congenital syphilis. It is well established that nearly 10 per cent of women attending prenatal clinics and a significant percentage of women examined in private practice have been found to have syphilis. About 85 per cent of the pregnancies of untreated syphilitic women end in stillbirths, neonatal deaths, or children having syphilis. The treatment of syphilis as a complication of pregnancy offers no insuperable difficulties. The main problem is to discover and treat the cases sufficiently early in pregnancy to insure healthy children as a result of treatment. It is well established that congenital syphilis can be prevented in 90 to 95 per cent of the cases by the adequate treatment of syphilitic pregnant women. In order to discover syphilis early in pregnancy, two things are necessary: (1) That women seek medical advice before conception or as early in pregnancy

as possible; and (2) That every physician take a specimen of blood from every pregnant woman consulting him and submit it to a laboratory for a serological test for syphilis. If the test is reported positive, treatment should be instituted at once for it is advantageous to treat syphilitic women even late in pregnancy. The earlier, however, that treatment is instituted the better the result."

Typhoid Fever. The few cases of typhoid fever that occur now are usually of carrier origin. About 2 per cent of the cases that recover from typhoid fever continue as carriers of typhoid bacilli and throughout life are ambulatory foci of infection. Such sources are the cause of most of the sporadic cases of typhoid that we have to-day. The physician caring for a case of typhoid fever should with the help of the health officer determine the source of the infection and also keep his patient under supervision until the stools are found free from typhoid bacilli. The carriers that resulted from the many cases of typhoid fever that occurred twenty or thirty years ago are dying off from other diseases and as there are but few cases of typhoid at the present time to furnish recruits the ranks of the carriers are thinning out. We can help this natural process by seeing to it that no recovered case is allowed to join the carrier group without being tagged. If the carrier condition is known by the individual and the health officer, protective measures may be carried out that will prevent him from becoming a menace to the community.

Whooping Cough. Whooping cough causes more deaths of children under five than any one of the other communicable diseases. Efforts are being made to produce a vaccine that will immunize against this infection. The reports of its use are promising but must yet be considered to be in the experimental stage. Whooping cough should be postponed as long as possible as after five years of age but few deaths occur. A doctor should warn mothers against exposing their infants and young children and if the disease develops it should not be treated lightly but as a serious disease.

Tuberculosis. Notwithstanding the marked drop in death rate from this disease it still causes about 4.6 per cent of all deaths in Massachusetts. From studies that have been made of samples of the population in various communities we may conclude that at least 2 per cent of adults have pulmonary tuberculosis. Many of them are without symptoms or signs. A roentgenogram of the chest, however, would reveal the condition. The realization on the part of all physicians whatever their specialty that two out of each 100 patients whether they are seen in the hospital or in private practice have tuberculosis would help tremendously in the control of the disease. Do not depend upon the physical examination. However skillful you may be, many advanced cases will be missed and practically all of the early cases will be passed over unless a roentgenogram of the chest is obtained. The stethoscope may well be omitted, but the x-ray never, in determining the presence or absence of pulmonary tuberculosis. When a case of tuberculosis is found, do not rest there. An attempt should be made to find the source of infection and other cases that are as yet unsuspected in the family. Especially is this true when tuberculous meningitis occurs in an infant or young child, as this usually means that the infection was derived recently from some member of the household and should lead to a roentgen examination of each adult, a tuberculin test of each child, and an x-ray of each one that the test shows to be infected. When such procedures are routine, you will have early diagnosis in many more cases and more successful treatment because it can be instituted at a favorable time.

With the marked lessening and eventual control of many of the communicable diseases, conspicuous examples of which are typhoid and diphtheria, the physician has been deprived of much remunerative practice. This financial loss can in large measure be compensated for by taking advantage of the opportunity to carry out immunization procedures; in other words, practice preventive medicine.

If it is important to extend the lives of the laity, it is also desirable to increase the life span of the physician who is responsible in large measure, together with the sanitary engineer, for the twenty added years which this generation can boast over those that have gone before.

Dr. George W. Crile says people can prevent many an illness by avoiding fatigue, worry and anger. In the present economic state of society we may be getting along with less fatigue, but worry has increased. It is impossible to find a comparative gauge with which to measure anger. Political campaigns probably have some deleterious effect on longevity, as then fatigue, anger and worry reach their high peaks. Doctors, however, do not as a rule take other than medical politics very seriously and are probably not affected by these periodic disturbances.

Are doctors long-lived? It is answered by the Statistical Bureau of the Metropolitan Life Insurance Company in a recent study. They find that a physician at thirty years of age has a life expectancy of thirty-eight years, just two years less than the average insured person of the same age but one year more than the man in the general population. Further comment is as follows:

"Clearly, the personal advantage to himself, which the doctor must derive from knowing when the human body is out of sorts and what to do about it, is more than

counter-balanced by the exacting duties, the irregular hours, the liability to emergency calls at any and all times and in all weathers, which fall to his lot, especially in country and small town practice. Yet doctors are a highly selected lot; they cannot even begin practice until they have stood the grind of a medical curriculum, followed, in most cases, by a period of apprenticeship in hospitals. There is a certain social selection also; all of which must tend to make medical men a group with better than average physique. In spite of these initial advantages, as he runs his life course, the physician is constantly working against odds, and in the end he is left with only a meager margin of advantage over the general population of the country."

A study of death rates by occupation based on data of the U. S. Census Bureau in 1930 by Jessamine S. Whitney, Statistician of the National Tuberculosis Association, has just been published. One of these tables gives the standardized death rates for specified causes per 100,000 gainfully occupied males 15 to 64 years of age in selected occupations according to social economic class and component occupations in ten selected states. It is interesting to compare the death rates of the professional men with the rates for all males considered in this study. The rates per 100,000 as taken from this tabulation are as follows:

	Physicians	Lawyers	All Males
Heart Disease	210	189	175
Cancer	72	75	81
Nephritis	65	56	57
Cerebral Hemorrhage	52	52	42
Pneumonia	47	41	69
Suicide	40	28	35
Pulmonary Tuberculosis	23	18	87
Cirrhosis of the Liver	17	11	10
Diabetes	12	14	12
Accidents	11	11	29

This shows that the rates for physicians exceeded those for lawyers in heart disease, nephritis, pneumonia, suicides, pulmonary tuberculosis and cirrhosis of the liver. In only two, namely, cancer and diabetes, were the rates higher for lawyers. As compared with all males, the rates for physicians are higher in heart disease, nephritis, cerebral hemorrhage, suicide, and cirrhosis of the liver. They are lower in cancer, pneumonia, pulmonary tuberculosis, accidents, and are the same in diabetes. It is startling to find suicides No. 6 in this list of causes of death—ranking above pulmonary tuberculosis, cirrhosis of the liver, diabetes, and accidents.

Dr. Herbert L. Lombard of the Massachusetts Department of Public Health has compiled causes of death for 220 physicians who died in the State in 1931-32. The causes were as follows:

Heart Disease	82
Cancer	21
Nephritis	21
Cerebral Hemorrhage	19
Pneumonia	9
Diseases of the Prostate	9
Accidents	9
Diabetes	7
Appendicitis	6
Suicide	6
Arteriosclerosis	5
Influenza	3
Hernia with Intestinal Obstruction	3
Pulmonary Tuberculosis	2
Miscellaneous	18

The diseases listed as the first ten are the same as in the *Journal of the American Medical Association* tabulation except that cirrhosis of the liver and pulmonary tuberculosis in Massachusetts were displaced by diseases of the prostate and appendicitis. Pneumonia is the only acute disease that finds a place in the first ten causes of death in all lists.

PERCENTAGE OF PHYSICIANS IN UNITED STATES DYING OF IMPORTANT CAUSES, 1923-1933

Journal of American Medical Association

	1933	1923
Total Number of Deaths	3209	2570
Cardiovascular Renal Disease	41.0	26.8
Respiratory Diseases	12.9	11.9
Cerebral Hemorrhage and Paralysis	11.8	10.5
Cancer	8.9	6.2
Accidents	4.6	4.9
Suicide	2.2	2.5
Diabetes	2.1	1.5
Tuberculosis	1.7	2.8

This table shows that in the last ten years cardiovascular renal disease and cancer have greatly increased and last year caused the deaths of 49.9 per cent, or 1600 physicians. On the basis of the prevalence of these diseases in 1923, only 33.0 per cent, or 1060, would have died from these causes—1060 instead of 1600. Respiratory diseases, cerebral hemorrhage and paralysis, and diabetes show slight increases. Accidents and suicides are about the same, and tuberculosis shows a decrease corresponding to the decline in other groups of the population.

The average age at time of death of males over 25 in 1931-32 in Massachusetts was 62.73; of physicians and surgeons, 63.60; of dentists, 58.97; of clergymen, 65.56; and of other professions, 61.16. Physicians outlive the average male by one year, the dentists by nearly five years, the other professional men except the clergymen by two years. The clergymen seem to have the advantage of outliving the members of all other professions. Perhaps they experience less fatigue, less worry and less anger, which may account for their living two years more than the physicians who minister to their physical ills.

How can the doctors live longer? The per-

centage of population in Massachusetts over 50 years of age increased from 12 per cent in 1850 to 16 per cent in 1880 and to 20 per cent in 1930. Notwithstanding the greater number that reach the half century mark, the average age of this group at death has not changed materially for sixty years. In 1870 the average age at time of death of those over 50 was 69.8; in 1910 it was 69.3; and in 1930 it was 69.5. Doctors should exceed this average because of the knowledge of diseases and their prevention which they possess and apply it to themselves. For example, they are familiar with precancerous conditions and evidence of early cancer and should be more alert to sense the danger to themselves from such lesions than would their patients. With four per cent more of the population over fifty years of age now than was true fifty years ago, physicians, like other adults, furnish a larger group of cancer susceptibles and they should be on the watch for its earliest signs or symptoms and take appropriate treatment. Doubtless some deaths from cardiovascular renal disease could be prevented and many lives prolonged if the early indications of these diseases were heeded and the daily routine of work and recreation adjusted to the handicap, whatever it may be. This means a periodic check-up from time to time and then living within our limitations. Adopt the methods of the steam boiler inspectors who arbitrarily cut down the steam pressure that is permitted after a boiler has been in use a certain number of years and it is further reduced if weaknesses are found or suspected in the tubes or shell of the boiler. Doctors, as well as other men, when they get beyond their fifties should ease up on their work and not play too hard or too long or expose themselves to the hot sun unnecessarily. To do so is to invite disaster. If one must play thirty-six holes of golf, divide the job into two parts and work off one half only on a single day—and there will come a time when nine holes should be the limit. Golf should be a pastime—not a dissipation. The man of sixty is foolhardy to compete with the man of thirty in strenuousness either at work or play. Acquire a respect for pneumonia and do not invite its attack by inattention to respiratory infections. Pneumonia has been called the "old man's friend" but the doctor should take precautions and not permit this friendly visitor to enter prematurely. Our Massachusetts tabulation of deaths of 220 doctors showed that six died of appendicitis and six by suicide. It would seem that doctors, with their knowledge of the symptoms of appendicitis, when they themselves experience those symptoms would make an early diagnosis in their own case. Procrastination in this regard seems to be one of the doctor's deadly sins. The doctor who takes his own life to escape its responsibilities or to avoid dying from chronic disease is not exhibiting the bravery he urges upon his patients in similar conditions. Fewer doctors should die of diabetes in these enlightened days. Dr. Joslin is constantly giving out medals to diabetic patients who under his supervision have outlived their expectancy at the time their disease was discovered. Choose a well-balanced diet, avoid dietary fads. The appetite is a good guide as to what to eat but not how much. The scales and the belt should determine the amount. Physicians who practice the tenets of good health in their community prevent disease, alleviate suffering, and delay death. St. Luke, a physician, reports the Master as saying: "As he said unto them, ye will surely say unto me this proverb, 'Physician, heal thyself; whatsoever we have heard done in Capernaum, do also here in thy country.' "

REFERENCE

1. Bigelow, George H., and Lombard, Herbert L.: Cancer and Other Chronic Diseases in Massachusetts. Boston: Houghton Mifflin Co., 1933.

MISCELLANY

VERMONT DEPARTMENT OF PUBLIC HEALTH

FEBRUARY, 1935

Cases of communicable diseases reported to this office during the month of February are as follows: chicken pox 149, diphtheria 1, measles 20, mumps 7, typhoid fever 1, scarlet fever 77, whooping cough 195 and tuberculosis 7.

The Laboratory of Hygiene made a total of 1,371 examinations during the month of February, classified in the following manner:

Examinations for diphtheria bacilli	73
" " Widal reaction of typhoid fever	43
" " undulant fever	43
" " gonococci in pus	101
" " tubercle bacilli	156
" " syphilis	525
" of water, chemical and bacteriological	36
" " water, bacteriological	170
" " milk, market	95
" " milk submitted for chemical only	13
" " milk submitted for microscopical	32
" " foods	1
" " drugs	12
" for courts, miscellaneous	16
" of animal heads for evidence of rabies	1
Miscellaneous examinations	52
Autopsies to complete death returns	2

Nineteen cases of gonorrhea and twenty-one cases of syphilis were reported to the Division of Communicable Diseases. One thousand, one hundred and thirty-nine Wassermann outfits and 501 gonorrheal slides were distributed by this Division during February.

The nurses of the Division of After-Care for Infantile Paralysis visited 125 infantile paralysis patients in their homes, three in the Burlington office and five at Dr. Ober's office in Boston. Three patients were admitted to the Children's Hospital in Boston and two discharged from this hospital. Eight patients were admitted to the Audubon Hospital and five discharged from that institution. Sales amounting to $61.96 were reported by the Vocational Worker of this Division.

The greater part of the time this month, the nurse of the Public Health Nursing Division has given her attention to organizing and supervising the work of the V. E. R. A. nurses. Fourteen nurses and one supervisor are now working under this project. Ten nurses are acting as assistants to already existing associations, two are doing school nursing and one supervisor and two nurses are doing generalized service in one county. Four hundred and eighty-one pieces of literature were mailed out by this Division and 858 birth notifications were mailed to parents.

OBITUARIES

BROWN—Edwin Merriman Brown, M.D., of Sheldon, Vermont, was born December 5, 1855, and died February 3, 1935, following a lingering illness.

He received his early education in Sheldon, later going to Kimball Union Academy, Burr and Burton Seminary and graduated in 1879 from the University of Vermont Medical College. Shortly after his graduation he returned to Sheldon and had practiced there approximately fifty-five years.

Dr. Brown was prominent, not only in medical circles in Vermont, but also in the public and political life of his community.

His widow, formerly Fannie L. Cummings, of Berkshire, Vermont; one son, Fred C. Brown, of Barton, Vermont, and three daughters, Mrs. O. T. Green, of Burlington, Vermont; Mrs. F. F. Zwisler, of Sheldon, Vermont, and Mrs. E. W. Lance, of Rahway, New Jersey, and one sister, Mrs. M. C. Rawley, of Groton, Massachusetts, survive him.

McGUIRE — E. E. McGuire, M.D., of Montpelier, Vermont, a general practitioner of fine qualities, was born in Keeseville, New York, September 29, 1868, and died in Montpelier, Vermont, November 20, 1934, in which town he had practiced since 1887.

Dr. McGuire received his preliminary education in Keeseville, New York. He was a graduate of the University of Vermont Medical College in 1895, after which he spent two years interning at the Mary Fletcher Hospital, Burlington, Vermont.

Surviving relatives are four brothers, Peter and Edward of Chicago, and John and Bernard of Montpelier, Vermont.

AMERICAN PUBLIC HEALTH ASSOCIATION

The sixty-fourth Annual Meeting of the American Public Health Association will be held in Milwaukee, Wisconsin, October 7-10, 1935. This organization is a society of 4,500 professional public health workers whose annual sessions review developments in health protection and promotion and outline plans and policies for future advances.

Several related organizations have announced that they will meet simultaneously with the American Public Health Association at Milwaukee. They are the following:

American Association of School Physicians
International Association of Dairy and Milk Inspectors
Conference of State Sanitary Engineers
International Society of Medical Officers of Health
Association of Dairy, Food and Drug Officials
Conference of Wisconsin Health Officers
Conference of State Laboratory Directors
Association of Women in Public Health.

The fourth Health Education Institute sponsored and conducted by the American Public Health Association will be held October 4, 5 and 6, prior to the opening of the several conventions. The subject will be "Health Education in Small Cities and Rural Communities."

A Health Exhibit featuring commercial, scientific and educational displays is a feature of the American Public Health Association Annual Meetings and will be conducted as usual at Milwaukee.

The preliminary program plans include special sessions on The Rôle of a Health Department in a Program of Social Security, Mental Hygiene, Professional Education, Veterinary Public Health, Diphtheria Immunization, and a session upon the history and achievements of the Association's Committee on Administrative Practice, celebrating its fifteenth anniversary.

The ten sections of the Association—Health Officers, Laboratory, Vital Statistics, Public Health Engineering, Industrial Hygiene, Food and Nutrition, Child Hygiene, Public Health Education, Public Health Nursing, Epidemiology — will discuss Pneumonia, Trench Mouth, Syphilis, Measles, Outdoor Bathing Places, Scarlet Fever, Milk Sanitation, Water Sanitation, Foods, Health Education, and many other topics representing the responsibilities of health authorities.

The Chairman of the Local Committee on Arrangements is Dr. John P. Koehler, Health Officer of Milwaukee. The American Public Health Association at 50 West 50th Street, New York City, will be glad to send program outlines on request.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.

CASE 21131

PRESENTATION OF CASE

A fifty-nine year old Canadian janitor entered complaining of left-sided abdominal and back pain of six weeks' duration.

Two years before entry he had an attack of sharp knife-like pain in the right chest about three centimeters from the costal margin in the midaxillary line. This pain was aggravated by breathing but was not severe enough to prevent him from working. It lasted about three weeks and, according to the patient, was not associated with fever. One and a half years before entry he developed nocturia, three or four times a night, which had increased in frequency, especially during the past six weeks. He urinated only about four times during the day. There was no dysuria, hematuria or difficulty starting his stream. Over this same period he had a dry, hacking cough which was not relieved by cough medicine. For the past year he had shortness of breath upon exertion which had gradually increased. There was no edema. Four months before entry he gradually became hoarse, a symptom which had increased in severity. He had a mild degree of orthopnea during the past two months. Six weeks before admission while at work he noticed a sudden dull pain in the left iliac region, just above the iliac crest, when he arose from his chair. A physician strapped his back for two weeks without relief. The pain remained a constant dull ache which was aggravated by exercise and deep breathing. One month before entry the pain changed in location rising to the region of the left lower ribs in the axillary line. It remained constant and dull but was marked by severe, sharp exacerbations three or four times a day, each lasting about half an hour. These pains were not relieved by milk or soda and occurred during both day and night. They radiated from the midabdomen around the periphery of the abdomen to the back and spine but never to the thighs or shoulders. During the past few days he was forced to sit up during the night in order to get relief. The dry hacking cough became worse but remained entirely unproductive. He became weak and lost his appetite. He developed marked constipation, a factor which had never troubled him before. For two days prior to entry he had vomited a good deal. During the past six weeks he had lost twenty-three pounds in weight.

The family, marital and past histories are non-contributory.

Physical examination showed a well-developed and fairly well-nourished man in no acute distress. Throughout the right chest there were numerous expiratory and inspiratory wheezes and rhonchi, especially in the region of the hilus. Over the right scapular region there were dullness and slightly diminished voice sounds, but normal tactile fremitus. There were a few finely scattered clicking râles over the left base. The heart was not remarkable. The blood pressure was 155/110. There was a definite mass in the left umbilical region which descended upon respiration. The costovertebral area on the left was hard and unyielding.

The temperature was 98.4°, the pulse 90. The respirations were 20.

On examination the urine was cloudy, acid in reaction, had a specific gravity of 1.016 to 1.022 and a very slight trace of albumin. The sediment contained five to fifteen white blood cells, an occasional red blood cell and a few granular and hyaline casts. The blood showed a red cell count of 5,200,000, with a hemoglobin of 75 per cent. The white cell count ranged from 11,800 to 22,000, 72 per cent polymorphonuclears. The stools were negative. A Hinton test was negative. The nonprotein nitrogen of the blood was 52 milligrams. The serum protein was 7.2.

X-ray examination of the chest showed a large area of homogeneous dullness extending from the level of the clavicle to the level of the fourth rib anteriorly on the right. The dullness was quite dense, obliterating the outline of the ribs. In the lateral view this dullness occupied the apex of the lower lobe and the region of the septum between the upper and lower lobes. There was also considerable diffuse mottling in the lower portion of the right lung field and what appeared to be homogeneous dullness in the hilus region. The heart shadow was not displaced. The trachea was in the midline. The diaphragm on the right was a little high in position and irregular. Its motion was limited. The left lung field was clear. An intravenous pyelogram showed that the right kidney was not remarkable in size or shape and excreted the dye very readily. The left kidney shadow was enlarged to about twice that of the right and excreted no dye at the end of one hour. A retrograde pyelogram on the left showed that the kidney pelvis was small and elongated. There was dilatation of the major calices and a tendency to clubbing of the minor calices. The upper major calyx was considerably dilated and there was fringing along the borders of the minor calices. A bronchoscopic examination showed two raised elevations, one medially and one posteriorly, in the right main bronchus

about one inch below the carina. These projections moved to and fro with forced respiration and did not appear to be outcroppings or new-growths. Although the right main bronchus was definitely narrowed, the opening to the right upper lobe bronchus was also narrowed. On expiration a definite mass was seen to protrude from the mouth of the upper lobe bronchus. The mass was smooth and red and was biopsied. The pathologic report showed no evidence of tumor.

Two weeks after admission he had pain in the lower part of the left axilla over which a definite friction rub was heard. He became slightly irrational for a few days, his nonprotein nitrogen rose to 80. During the following week he improved. His friction rub disappeared and his chest sounds were better. He received intravenous glucose and showed marked improvement. During the fifth week he had a marked turn for the worse. He became weaker. His cough became more severe and productive. He was put into an oxygen tent without avail and died that day.

Differential Diagnosis

Dr. Maurice Fremont-Smith: "Two years before entry he had an attack of sharp, knife-like pain in the right chest about three centimeters from the costal margin in the midaxillary line." One would expect pain in that position to be pleurisy. A tuberculous pleurisy usually results in the formation of fluid and the pain disappears. This pain remained three weeks. Pain associated with motion of the pleura, which persists, is caused by malignancy, and it is characteristic of malignant pleurisy that even though fluid forms the pain persists.

"He urinated only about four times during the day." That is interesting. One would expect a lesion of the bladder or prostate to cause difficulty in urination during the day as well as night, though it is true that certain cases of prostatic hyperplasia first notice frequency at night and much less frequency during the day. The thing that causes nocturia is lowering in function of the kidneys, so that secretion persists after the patient is at rest. Normally the kidney stops secreting very quickly. If the water is not removed the kidney keeps on functioning and you have a large amount of urine secreted at night.

"There was no dysuria, hematuria or difficulty starting his stream." Which argues against a local bladder or prostatic lesion.

"He had a mild degree of orthopnea during the past two months." Either he had a heart that was failing or a new growth in his chest.

The pain and increased hoarseness would lead one to think seriously of a carcinoma of the bronchus with metastases to the glands in the chest.

All this pain of which he is complaining, with the exception perhaps of the first, would be satisfactorily explained by metastases to the spine. This type of pain with the acute exacerbations is characteristic of a lesion involving the sensory root or possibly the ganglia. It is a root type of pain although not felt encircling the trunk. We should remember how often pain from cord tumor will not be felt in the back. It may be felt first anteriorly. Gall bladders have been taken out, and angina pectoris has been diagnosed in cases which really are pressure on the nerve roots, either an arthritis or a cord tumor.

"These pains were not relieved by milk or soda." It is interesting that they should have been thinking of a lesion in the gastrointestinal tract, a duodenal ulcer, and certainly this area of pain does not suggest that. It is almost impossible for ulcer, unless perforating, to cause pain in that region, just above the iliac crest or just below the ribs on the left.

Position of the trunk made a great deal of difference. In the intrinsic cord tumors position makes very little difference. It would seem that this must be a vertebral lesion, metastatic.

I should like to ask Dr. Lord under what conditions one does get, assuming the observations to be correct, normal tactile fremitus and diminished voice sounds. I should not think of them as going together. Even a thickened pleura should give diminution in both if it gives either. It may be that the observation is not correct.

Here in the chest we have evidence either of a new growth causing the dullness or else something pressing on the bronchus and causing collapse of a portion of the lung, which, again, would increase the density of that portion of the lung and transmit the sounds from the bronchi more easily. We also have evidence of something above the umbilicus on the left side, and a costovertebral angle on the left which is hard and unyielding.

Putting the evidence together as far as we can we have probable malignancy in the chest, malignancy in the spine and an indication that we may be dealing with something malignant in the left costovertebral angle, having to do with the kidney. This mass above the left umbilical region might be kidney, might be spleen, might be liver, although one would expect it to be felt all the way across in that condition. It is not retroperitoneal mass because it moves with respiration. My guess so far is that it is kidney.

There is nothing very helpful in the urine examination. White cells and an occasional red cell in a man of fifty-nine might be due to an infected prostate. The specific gravity is good, rather remarkably good for a nonprotein nitrogen as much raised even as fifty-two. He has

a perfectly normal red count. How are we going to justify that red count in the presence of widespread malignancy? How are we going to explain the white count? One may be able to explain the white count by superimposed infection. The normal red count is very unusual for a man with widespread malignancy. It would be reasonable to say that the bone marrow had not been involved. On the other hand I am saying also that he has a metastasis to the spine.

X-ray Interpretation

Dr. Donald S. King: The two films are taken a month apart and they show an advancing atelectatic process. The upper lobe was involved first and then the lower, and in the end there is collapse of a large portion of the lung. There is then x-ray evidence of increasing bronchial occlusion resulting in atelectasis. The physical signs are also those of partial bronchial obstruction since there is a record of wheezing which is limited to one side of the chest. This "unilateral wheeze" is an increasingly important physical sign.

Dr. Fremont-Smith: We have no evidence of metastasis to the glands?

Dr. King: None that I can see.

Dr. Fremont-Smith: No fluid?

Dr. King: No.

Dr. Fletcher H. Colby: This is a rather confusing pyelogram. It makes one think in the first place of chronic inflammation and possibly of tuberculosis due to fuzziness of some of the calices. The only thing one can say is that it is suggestive of chronic inflammatory disease of the kidney pelvis.

Dr. Fremont-Smith: Will you say that neoplasm of the kidney is not likely?

Dr. Colby: I should say it was unlikely from the pyelogram but could not be ruled out. The usual finding in renal malignancy is a deformity of the kidney pelvis and there is no evidence of such in the pyelogram. Again, it must be remembered that the intravenous pyelogram on this patient did not show any function of the left kidney. That is evidence of sufficient impairment of renal function so that the dye does not appear and is more common in inflammatory conditions than in neoplastic disease.

A Physician: Did this kidney secrete urine?

Dr. Colby: Yes, it did.

Dr. Fremont-Smith: If there were a neoplasm that had pressed on the lower portion of the kidney pelvis and interfered with function would you not get a slight hydronephrosis and retention in dye?

Dr. Colby: Yes, you might.

Dr. Fremont-Smith: The pathologist's report on the bronchoscopic biopsy was "no evidence of tumor." Of course that does not mean that there was no tumor there.

Dr. G. Bernard Fred: I did the bronchoscopy on this patient. It was done under local anesthesia. A 7 millimeter bronchoscope was passed and the carina found to be normal and in the midline. The left main bronchus was not examined. The bronchoscope was passed into the right main bronchus where it was stopped about one inch past the carina on account of a marked narrowing of the lumen. It would not go down into the terminal bronchus. The mucous membrane of this right main bronchus was red and thickened and it had on its surface two small, raised projections of mucous membrane, one of which sprang from the medial wall, the other from the posterior wall. They moved to and fro with respiration. They did not seem to be outcroppings or new growth. The opening to the right middle lobe was not seen because of the narrowing of the right main bronchus. The right upper lobe bronchus was found with difficulty and when finally seen it was found to be merely a vertical slit.

The lumen of this upper right bronchus contained no blood, pus or new growth on quiet respiration. However, on forced expiration a definite mass was seen to protrude about one-eighth of an inch from the lumen. This mass was dull red, smooth and rounded in appearance. A biopsy was taken followed by profuse bleeding. At the time of the bronchoscopy I made a definite diagnosis of "new growth involving the right upper lobe bronchus."

Differential Diagnosis Continued

Dr. Fremont-Smith: It is possible that we are dealing here with something outside the bronchus, pressing on it, and causing narrowing of the bronchus and yet the mucous membrane is a normal mucous membrane. A gland pressing on the bronchus might cause collapse and atelectasis and all the rest of the picture. The only difficulty is that we have no enlarged bronchial glands.

I do not know what the diagnosis is. I think it may be wise to disregard the kidney as an important part of the picture. I feel that he had two lesions. Certainly we cannot explain the whole picture on tuberculosis. We cannot explain the kidney picture and the bronchoscopy on the basis of one malignant lesion. If he had a hypernephroma the metastases would be more widely distributed. On the other hand there is no reason to connect a primary bronchiogenic tumor with a lesion in the kidney of this type. Therefore, I throw the diagnosis before the house. I feel that there are two lesions (1) question of tuberculosis of the kidney and (2) a probable bronchiogenic carcinoma with metastasis.

Clinical Discussion

Dr. King: I am interested in the question of metastases from primary bronchiogenic carcinoma. I do not know what your figures are, Dr. Mallory, but I believe that you have frequently found metastases from bronchial carcinoma to the adrenals.

Dr. Tracy B. Mallory: Yes, in our experience they are very common. I must disagree, moreover, with Dr. Fremont-Smith since we often see an apparently solitary metastasis from a carcinoma of the kidney.

A Physician: Might the abdominal mass have been adrenal?

Dr. Holmes: I think this is extensive malignant disease and you would expect at least a displacement of the kidney.

Dr. Mallory: It is true that we have found adrenal metastasis with great frequency in our cases of primary carcinoma of the lung, but on the other hand they have rarely been large enough to be clinically noticeable and palpable.

Dr. Holmes: The absence of dye secretion in the right kidney is a bit unusual in the kidney tumor. We have four cases of kidney tumor in which there was no dye secreted. In all of these there was a definite block in the ureter. Usually a kidney tumor does not interfere with the secretion of the dye.

Clinical Diagnoses

Carcinoma of the lung?

Dr. Maurice Fremont-Smith's Diagnoses

Primary carcinoma of the bronchus with metastases to spine.
? Tuberculosis of the kidney.

Anatomic Diagnoses

Carcinoma of the lung with metastases to the kidneys, ureter, anterior mediastinum, heart, aorta, and the bronchial and retroperitoneal glands.
Pulmonary abscess, right upper lobe.
Pleuritis, chronic fibrous.

Pathologic Discussion

Dr. Mallory: We found two large tumor masses, one of them completely surrounding the bronchus to the right upper lobe and to a certain extent projecting into it. Beyond the point of obstruction there was extensive infection with bronchiectatic cavities running up to the periphery of the lobe, accounting probably for the high white count. The tumor had extended across the mediastinum and was beginning to invade the tissues around the hilus of the other lung. The other main tumor mass was in the left upper quadrant of the abdomen where it completely surrounded the left adrenal but did not involve it. It extended downward and had almost completely destroyed the left kidney. The upper portion of the left ureter was practically blocked; its entire wall was invaded by tumor. The tumor also had invaded the aorta and most of the retroperitoneal glands on the left side of the aorta. The tumor histologically is, I think, barely recognizable as carcinoma rather than lymphoma. However, it seems to have a rather definite alveolar arrangement in places and I feel quite certain it is a primary carcinoma of the bronchus.

Dr. Fremont-Smith: Were there any metastases to the spine?

Dr. Mallory: We found none; at least no gross ones, no large ones.

Dr. Frederick T. Lord: In answer to the question regarding the physical signs, the findings over the right scapular region, "dullness and slightly diminished voice sounds but normal tactile fremitus," are not such as would be expected with bronchostenosis and consequent atelectasis if the bronchus is tightly closed, but might be present if the bronchus were partly open. The complex of signs with atelectasis and complete bronchial occlusion is dullness, diminished or absent breathing, voice, whisper and tactile fremitus without bronchial breathing or egophony.

Dr. Colby: I think Dr. Fremont-Smith did a good job in discussing this case in spite of misleading suggestions such as mine. I, for one, thought it suggested tuberculosis of the kidney. The pyelogram alone would suggest that if you knew nothing about the case at all. I think Dr. Holmes would agree that it was not a typical picture of primary tumor of the kidney. I saw the case on the ward. I could not connect up all these facts and could only say that I did not feel that it was a primary tumor of the kidney. I felt that the changes in the kidney were due to infection, inflammatory changes. It is interesting that in 1,100 autopsies of patients dying with malignant disease at this hospital, forty of them—I think these figures are correct—showed evidence of metastatic disease of the kidney. So that metastatic malignancy involving one of the kidneys is distinctly not common, only a little over three per cent. It is also interesting in connection with this particular case that most frequently metastases from primary tumors of the lung or pleura were to the kidney. This series of cases was looked up by Drs. Mintz and Barney two or three years ago. So the primary tumors of the lung and pleura not infrequently do have metastasis to the kidney.

CASE 21132

Presentation of Case

First Admission. A sixty year old American, a probation officer, entered complaining of cough.

About three months before entry the patient developed a cold which kept him in bed for two weeks and confined him to his home for one week more. During this illness he had about two or three attacks of chills and fever each week. He also had a painless cough with the production of creamy, somewhat tenacious, stringy phlegm. The volume of the sputum was never more than two tablespoonfuls; it was never bloody. One month later nine teeth were extracted. The extraction had no influence on the chills and fever or cough. About six weeks before admission the chills and fever increased in frequency, coming on almost every night. During the day, however, he was up and about doing his work although he noticed that he was getting progressively weaker. One month before entry he entered a sanatorium where he remained until his entry here. At the sanatorium x-rays of his chest showed a spot in the lower right lung for which he was given diathermy and actinic ray treatment. On the fifth day at the sanatorium, and two days after the diathermy treatment was started, he suddenly coughed up about half a cupful of purulent bloody sputum. The following night he coughed up some more. Since then his sputum gradually decreased in quantity and never contained blood. The cough also decreased and for the past two days he had almost no cough and no sputum. The sputum had never been foul smelling. He had had night sweats from the onset of his illness until one week before entry. He had never had pain in his chest but had had severe shortness of breath on exertion, which improved steadily, however, after he entered the sanatorium. During the month before admission the dyspnea had gradually decreased until at the time of admission there was practically none. There was no orthopnea. Only during the first week in the sanatorium had he had any fever. He had lost thirty-six pounds in weight during the past eight months and sixteen pounds in the past three months.

His family and marital histories are noncontributory.

There was no history of tuberculosis. He had had almost all of the childhood diseases, including scarlet fever. At eighteen he had measles. Four and a half years before entry his left kidney was removed. The pathologic diagnosis was hypernephroma.

Physical examination showed a well-developed and nourished man in no acute discomfort. The chest was barrel shaped, symmetrical and had poor expansion. There were a few crackling râles at both apices. The breath sounds were a little more prolonged in the right axillary area posteriorly. The heart was not remarkable. The blood pressure was 130/80.

The temperature was 98.4°, the pulse 84. The respirations were 20.

Examination of the urine was negative. The blood showed a red cell count of 4,200,000, with a hemoglobin of 70 per cent. The white cell count was 11,200, 81 per cent polymorphonuclears. A Hinton test was negative.

X-ray examination of the chest showed that the left side of the diaphragm was higher than the right. It was smooth in outline on both sides and moved well with respirations. There were two areas of density at the right base. One was linear and lay along the interlobar septum between the middle and lower lobes; whereas the other was rounded and sharply defined and lay in the middle of the lower lobe. The latter was 5 centimeters in diameter. There were no visible cavities in either area. Several areas of calcification were seen in both apices and infraclavicular regions. There were no mediastinal masses. The heart and mediastinum were in normal position.

He was discharged on the third day to recover from his respiratory infection and to return later for operation.

Second Admission, four months later.

For the first three months after discharge he remained in bed and took many sunbaths. He had occasional cough with a small amount of thick brown sputum. On two occasions, however, he raised half a cupful of sputum. He had very little chest pain until two months before this entry at which time he awoke one morning with severe right chest pain, aggravated by breathing. From then on he found that if he lay on his right side too long the pain would recur. Except for pain he had felt quite well until one month before entry. He had gained eight pounds in weight and was feeling stronger. One month before admission, a week after he had begun to be up and around, he developed shortness of breath, felt weaker and began to lose weight. His appetite became poor. His temperature remained consistently around 98° in the morning and rose to about 100° in the evening.

Physical examination had not changed since his first admission. The breath sounds on the right were diminished.

The laboratory findings were essentially the same. The sputum was thin, mucoid in character and contained many cocci.

He received two air injections of 600 and 700 cubic centimeters before operation, and on the tenth day the right lower lobe was removed. He did well postoperatively and was discharged about one month after operation.

Differential Diagnosis

Dr. Frederick T. Lord: In view of the shortness of the time I might somewhat abridge this report and say of this sixty year old American white individual that seven months ago, at

the time this story was written, the patient had an acute respiratory infection spoken of as a "cold," during which, however as is uncommon with a "common cold," he had chills and fever for two or three weeks, and cough, which was painless, with purulent sputum not exceeding two tablespoonfuls and never bloody. That is the beginning of the disturbance. Now I might say further that he has continued to have a cough for the whole of the seven months and continued to raise brown sputum, and that on three occasions he has explosively expectorated a large amount of purulent sputum amounting to half a cupful. His temperature has been elevated, we do not know how constantly, but we may presume for several months. He had night sweats the first two months. We do not know about them since then. He had shortness of breath and lost a good deal of weight. That is the gist of the story.

In addition it should be noted that he had nine teeth extracted six months ago, or one month after the onset, and that he had a hypernephroma of the kidney removed four and a half to five years ago. There is no history of tuberculosis.

That brings us to the physical examination, which was negative except for barrel shaped chest and poor expansion, which might mean emphysema, râles at both bases, and prolonged breath sounds—whatever that may mean—in the right axillary region posteriorly. I do not know what that statement means, but I suppose it refers to long expiration. He has a negative heart and normal blood pressure.

So far as the laboratory examinations are concerned, he has some anemia with leucocytosis and polymorphonuclear increase. Perhaps we might pass on to the x-ray.

X-ray Interpretation

Dr. George W. Holmes: The most striking thing in the x-ray is this mass which lies in the angle between the liver and left border of the heart. In the anteroposterior view you notice that the mass is slightly lobulated, very sharply defined and of fairly even density. It does not look like an inflammatory mass so much as like a tumor. Above it in the lung field are several small dense spots, some in the apex. There are similar ones not so well marked on the left side. I should interpret these areas as having nothing to do with the large mass. They are perhaps due to obsolete tuberculosis. In the lateral view the large mass has much the same shape. It is a solid mass rather than a wafer-like mass, more or less spherical in shape. The edges are sharp. It lies in the posterior part of the chest, probably in the lower lobe. It does not interfere with the diaphragm and as far as I can make out is not connected with the pleura. We have a distinct outline of the interlobar septum on the right, suggesting thickening of the interlobar pleura probably explained by old tuberculous infection.

Dr. Lord: There is nothing remarkable in the heart; it is not displaced? I ask it because of the record. It says that the left side of the diaphragm is high. I cannot understand it.

Dr. Holmes: Normally the left diaphragm should be a little lower than the right. In this anteroposterior view the left is at about the same level as the right. I think that may be a debated point.

Dr. Lord: Are there two shadows just above the diaphragm, underneath the sternum?

Dr. Holmes: Those could be areas within the lung. If they were directly under the sternum they of course would not be seen in this film.

Dr. Donald S. King: This patient had had previous lipiodol injection. Could not the x-ray appearance, Dr. Holmes, be explained by retained lipiodol?

Dr. Holmes: Yes, of course. The other possibility is calcification in the artery. I should only consider them interesting shadows and not pay much attention to them.

Dr. King: The original film is not here but a comparison of this film with the one at hand showed that the tumor had increased appreciably in size in five months.

Differential Diagnosis Continued

Dr. Lord: We will pass on to the consideration of what this might be. I might say in the first place that we should like to know about the presence of tubercle bacilli in the sputum.

Dr. King: There were no tubercle bacilli in the sputum.

Dr. Lord: In such a case as this, one might search for elastic tissue in the sputum of course. I would like to ask whether there had been a bronchoscopy. Nothing is said about the result of these investigations. I hear no response. Perhaps I should not know these facts.

With respect to the diagnosis, I think he had old, inactive tuberculosis. Râles do not necessarily indicate activity. There is a secondary type of tuberculous process in a sensitized individual. In addition to that he has a respiratory infection. I mean in addition to a tuberculous process he probably has a non-tuberculous inflammatory process. I shall proceed rather cautiously and call it a bronchopulmonary infection. I am not able to exclude an abscess, but I do not believe it is abscess. I do not believe the teeth extraction had anything to do with the symptoms because the symptoms began first. The teeth extraction was incidental. It is rare to have abscess without foul sputum, and no cavity is shown by x-ray. I am thinking that he has infection, that the mass shown

by x-ray is not the focus of infection but it is somewhere else, perhaps in this neighborhood. He may have a bronchiectasis. It is reasonable to think that there may be a trapping of secretion somewhere, because on three occasions he raised half a cupful of expectoration explosively and we have to explain it in some way. The best explanation is that he had a plugged bronchus with trapping of secretion below it. On release of the bronchial plug there was explosive expectoration.

Now we come to the explanation of the homogeneous sharply outlined mass, and, as Dr. Holmes suggested, tumor is the first thing that one would think about. In view of the hypernephroma four and a half or five years ago one must think of the possibility of a metastasis from the tumor before it was removed. We know that hypernephromas have a very grave prognosis in spite of removal of the tumor. Very few patients live three to five years without recurrence of the growth; so that I cannot leave hypernephroma with metastasis to the lung out of consideration. In fact I should think that was the best bet on this mass here, but of course one would also have to think of a primary intrathoracic tumor; and the first choice in that group would be a bronchiogenic carcinoma. One would have to think also of a teratoma which had become malignant and a neurofibroma which had become malignant.

I make a diagnosis then of pulmonary tuberculosis. He has also, I think, a non-tuberculous bronchopulmonary infection with probable bronchostenosis in consequence of pressure on the bronchus from without by the mass and a question of bronchiectasis. The mass is, I think, malignant disease probably secondary to the hypernephroma.

Clinical Discussion

Dr. King: Operation was recommended on this patient because Dr. Churchill had previously operated successfully upon a patient who had had a kidney removed for carcinoma and had one solitary metastasis in the lung. Some of you have seen the films of the patient.

The patient came to me originally because of symptoms suggesting pulmonary tuberculosis. I found râles at the right apex and a chest x-ray was ordered. This original film, taken in November 1931, shows tuberculosis of the right apex and a lesion in the left lung which had the appearance of a metastatic tumor. After seeing the x-ray we searched further for a source of a metastasis and found a large kidney which was removed by Dr. Barney in April 1932. The next slide shows the pathological specimen. After the removal of the kidney she had x-ray treatment for the pulmonary metastasis. In spite of this treatment, however, the lung tumor increased in size as shown in the next film which was taken in July 1933. Complete x-ray study of the patient at this time showed no metastases in the bones or any other region which could be investigated; and after careful thought operation for removal of what was apparently a solitary metastasis seemed justified. In July 1933 Dr. Churchill removed the tumor and the lingua of the left upper lobe in which it was located. The patient made an excellent recovery and up to the present time there is no evidence of carcinoma anywhere in the body.

With this successful case behind him Dr. Churchill therefore felt justified in operating upon the case which Dr. Lord has discussed. The preoperative diagnosis was pulmonary metastasis from a hypernephroma. As Dr. Lord said, there was definite abscess beyond the bronchus which had been obstructed by the tumor. Operation was performed in October 1934, and the patient now feels perfectly well and has no symptoms. Recent x-rays of the lung show no pulmonary recurrence.

Clinical Diagnosis (Preoperative)

Metastatic hypernephroma.

Dr. Frederick T. Lord's Diagnoses

Metastatic hypernephroma.
Pulmonary tuberculosis.
Bronchiectasis?

Pathologic Diagnoses

Bronchiogenic carcinoma of the lung, squamous cell type.
Bronchiectasis.

Pathologic Discussion

Dr. Tracy B. Mallory: This colored lantern slide shows atelectatic lung at the top, then a large tumor mass filling most of the lobe. At the base below the tumor you can see a definitely dilated bronchus filled with somewhat greenish purulent secretion, a typical bronchiectatic cavity. At the time of operation I attempted to make frozen sections of the tumor but found it so necrotic that I could not say any more than that it was a malignant tumor. When our better sections came through it became obvious that it was not a hypernephroma. The major part of the tumor was necrotic, but there we could find masses of distinctly acidophilic tumor cells which were flat, occasionally slightly spindle shaped, and in many places very definitely characteristic of squamous epithelial cells. There can be no question that this is a squamous cell tumor which is perfectly consistent with a primary bronchial origin. We were naturally extremely interested to find out if there might have been any mistake about the original diagnosis of hypernephroma of the kid-

ney and succeeded in locating the slides from the kidney tumor at another hospital. It was a perfectly typical, highly vacuolated clear-cell renal adenocarcinoma and I think one can quite flat-footedly say this tumor in the lung had nothing to do with the original tumor in the kidney. Careful study of the gross specimen tends to confirm the theory of primary bronchial origin since the tumor projected into and grew along the bronchial tree, which is extraordinarily rare, if it ever happens, in metastatic tumor. I think in retrospect one can say that we practically never do see pus trapped behind a metastatic tumor in the lung. I cannot remember seeing abscesses distal to pulmonary metastases in any case in a number of years. Would you agree with that from the clinical point of view?

DR. LORD: I would off hand. I cannot think of any particular case.

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PSYCHOLOGISM AND MEDICINE

THAT the practice of medicine by unlicensed persons constitutes a serious menace to the community, all would agree, but what constitutes the practice of medicine justifies discussion and is the occasion for grave differences of opinion. An immediate mist surrounds the word "medicine": too often it is restricted to the use of drugs, and such limitation is found in antiquity. But in the common sense view of to-day the practice of medicine means the practice of the healing art, and its dominant purpose is to make well a person who is sick. By warranted extension, prevention and relief are included. Several qualifications have appeared, and must be noted. Intelligent practice depends on knowing with what one is dealing and so diagnosis is held to be essential. Another qualification is that the healer should hold himself out to be a healer. Another criterion (important in principle, but not essential in practice however) is that the healer should receive some pay for healing or for the services rendered. The final factor is that the healer should use material means. The spoken word is as material a means as the surgeon's knife.

The application of these just criteria indicates somewhat the extent of abuse and the irrationality of much legislation. A limitation occasionally explicit and cited in court is that nothing in the medical practice act shall be interpreted as interfering with the exercise of religion. In Massachusetts, the practice of Christian Science is specifically excluded from the prohibition of the law. What rational justification is there for exempting the Christian Scientist who communicates with a seeker by material means and who accepts material in exchange, no matter by what words obfuscation of the true nature of the transaction is sought?

An abuse growing in importance is the practice of medicine by psychologists, that is, by so-called professional psychologists. Perhaps some of them are honest and sincere in their contention that they are not trespassing in the field of medicine: they should know better. Their chief resource is "psychoanalysis" which indeed covers a multitude of vagaries but which substantially represents an important contribution to psychology and psychiatry. The practice of psychoanalysis, for the purpose of restoring to normal the mental workings of the person who has aberrations from normal (and usually such aberrations cause pronounced suffering or disease) is the practice of medicine just as truly as is the amputation of a limb. The sophist says, however, that he merely "analyzes" and nature heals. With what contempt would Paré have laughed at a contemporary who claimed that Paré was not practicing surgery because he said, "I cared for him, but God healed him."

This abuse is apparently growing, and is a manifestation of commercialism in "high" places. It constitutes a real danger, for no mere psychologist is fitted by his training or experience to determine the physical condition of the sufferer. Both the body and the psyche must be considered.

DEAN EDSALL'S REPORT

A number of important subjects have been considered by Dean David L. Edsall, of the Harvard Medical School, in his annual report for the past year; a report that may be considered somewhat in the nature of parting advice from one whose major interest has been the School for a number of years. Dr. Edsall points out that a striking departure from previous conditions with results of large influence in both teaching and research has been made in the clinical branches. The old plan of part-time teaching and research by clinicians whose pri-

mary interest was of necessity in the practice of medicine has been replaced in the major and some of the minor departments by plans which make university and hospital work "the dominating activity with a group of men that are chiefly responsible for the affairs of each department, and they are provided with living salaries—."

These results have been very advantageous, although costly, and there are many who believe that the teaching of students by part time men whose major interests are in the field of practice is an important adjunct to be safeguarded.

A number of other subjects have made relatively little progress in proportion to their importance, in part due to their separation into very specialized fields with slight contacts with the methods and viewpoint that have developed in the more rapidly advancing fields. In one of these, otology, work that has been going on in the Physiological Department of the Medical School seems to be bearing fruit. In dermatology a marked degree of specialization and separation from other fields of medicine has worked disadvantageously to both sides. Orthopedic and genito-urinary surgery have been given inadequate facilities for the study of their problems in a manner suited to their importance.

Other fields in which there is immediate need for study and the application of knowledge are those of medical economics and the question of the social influences causative of disturbed health. In the former the Medical School has already taken up some work, and in the latter the School of Public Health is attempting to open the way to methods of study. In the natural sciences, studies in physics are expected in the future to show an increase in importance comparable to what has occurred in the chemical and biological fields in recent years.

It is in the field of psychiatry, however, that the greatest amount of change is necessary, for no individual field in the domain of health is so large a cost to the State, and in no field of medicine has less been done, in proportion to the importance of the subject itself, in most places in this country. Part of the difficulty in psychiatry has been a marked degree of specialization by which the subject became more and more detached from contacts with the general medical field, its work having been done for many years almost entirely in separate hospitals so that there was very little contact between persons working in these hospitals and the other members of the profession.

Psychiatry certainly must continue to be an independent and dignified specialty in its own right, with vast areas of land yet to be brought under cultivation; not subservient to medicine or neurology or any other branch of the profession, but the interests of both medicine and psychiatry will be furthered by a closer alliance between the two. Most of those active in other fields of medicine are now poorly trained in psychiatry, and psychiatry has missed the help in studying problems that come from close contact with persons in different but related fields.

This lack of contact and of knowledge is probably one reason why comparatively few select psychiatry as a life work; this and the naturally greater appeal of the more spectacular fields, those where immediate results can be visualized and where advances have been more rapid. Great expectations, therefore, are focussed on the new unit in psychiatry at the Massachusetts General Hospital, made possible by a temporary grant of money, which offers the promise of a considerable enlargement of the amount and type of research work to be done in psychiatry and allied conditions. This unit will have the advantage of a close liaison with the McLean Hospital in Waverley, as well as offering members of the McLean staff the opportunity of working in a general hospital.

REPORT OF THE COMMONWEALTH FUND

THE Commonwealth Fund has just issued as its sixteenth annual report a document worthy of perusal in that it shows the amazing scope and variety of this particular philanthropic organization's activities. Epitomized in its opening paragraph, "the Commonwealth Fund has continued in the past year to throw its weight in the direction of bettering rural health, enlarging medical knowledge, strengthening psychiatric service, and fostering international friendliness".

During the year ending September 30, 1934, this report records the use of $1,720,514.54 for philanthropic purposes and calls attention to the need of better medical service, particularly in small towns and rural communities. Among these purposes has been the encouragement of the six rural hospitals which it has so far sponsored to shape the conditions under which the doctor works with definite educational ends in view. In so far as the rural hospital makes the older men in practice increasingly self-critical, according to the Fund's belief, and helps to counterbalance the pull of the larger cities on ambitious younger men, it can be counted a constructive force in rural medicine.

The rural health department, also, may be an educational force as well as an indispensable agent for the protection of the community, and a basic policy of the Fund is to foster the de-

velopment of its possibilities in both directions. Activities similar to those carried on in Tennessee for the past ten years are now under way in Mississippi and Massachusetts. In Massachusetts, in 1931, the Fund began experimenting with district health service, when sixteen towns in the southwestern part of the state were grouped as one district, and fourteen towns were so united in the Nashoba Valley. In the southern Berkshire area public health performance has been raised from a rating of 447 points in 1929 to 732 points in 1933, and in the Nashoba district a similar improvement has taken place from 367 to 669 points. A similar experiment in the pooling of health services is in progress in Maine in the district surrounding the Farmington Hospital, a full-time health department is maintained in Barren County, Kentucky, and for the past four years appropriations have been made to the state health department of New Mexico to establish a minimum of nursing service in a number of counties.

In Tennessee, Mississippi and Massachusetts, scholarships are provided for postgraduate training for nurses, both in the counties or districts specially served and elsewhere. For the National Organization for Public Health Nursing a survey has been published reporting the present status of public health nursing in twenty-eight cities, towns and counties in different parts of the country.

Studies have been made on practical methods of recording and analyzing public health activities, and, as a contribution to medical education, postgraduate fellowships have been offered to selected men on the rural hospital staffs with which it is directly concerned and elsewhere in Tennessee, Mississippi and Massachusetts. Postgraduate courses have been given at Vanderbilt University, at Tulane and at Harvard for physicians of these three states. As further contributions, short courses have been offered on special subjects, as in Virginia, and a group of scholarships is available each year at Vanderbilt, Tulane, and Tufts to young men who will agree to practice in rural communities after graduation.

Contributions have been made to research, such as the study of rheumatic fever being carried on at the New York Hospital and the House of the Good Samaritan in Boston, and the pneumonia serum study of the Massachusetts Department of Public Health. To complete the summary, mention must be made of the Commonwealth Fund fellowships enabling British students to study in the United States, the furtherance of mental hygiene projects both in the United States and Great Britain, and the studies being undertaken by the Legal Research Committee in administrative law and the general field of government.

DOCTOR GEORGE HOYT BIGELOW

THE tenaciously held hope of the restoration of Dr. George H. Bigelow to his family and his official life, was shattered by the recovery of his body from Sudbury reservoir, basin 3, March 23, 1935. With his unexplained disappearance December 3, 1934, the assumption of an attack of amnesia was the natural reaction of his relatives, because of many recorded instances of victims of this peculiar mental affliction.

Dr. Bigelow's career had been watched with interest and with concern at times by his professional confreres because of the exhibitions of phenomenal mental acumen and physical energy. His behavior often seemed to show that the rapidity of his mental processes exceeded the resources of vocal expression, but in the finished sentences there was never uncertainty as to his reasoning and conclusions.

The problems of humanity aroused a militant spirit which drove him to the expenditure of energy far beyond the resources of most men. When he saw the solution of a complicated situation, everything was secondary to its accomplishment.

Popular as a speaker, inspiring as a leader, the demands on his strength were so many that he gave little time to needed recuperation. In debate or official action, he never compromised with opposition which seemed to him questionable. The only weakness of men of his type seems to be inability to realize the necessity of due care of the human organism. The one consolation left to the friends of Dr. Bigelow is that his accomplishments surpassed those of most men whose lives cover a longer span.

We are especially indebted to Dr. Bigelow for progress in his chosen field of public health, which contributed in a large measure to the safety and comfort of life. We heartily express to his family our sympathy in their bereavement.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

ROOT, HOWARD F. A.B., M.D. Harvard University Medical School 1919. Medical Staff, New England Deaconess Hospital. Assistant in Medicine, Courses for Graduates, Harvard Medical School. His subject is "Acute Hepatitis in a Diabetic with Severe Acidosis and Suppression of Urine." Page 545. Address: 81 Bay State Road, Boston, Mass.

EVANS, THEODORE S. B.A., B.S., M.D. Columbia University College of Physicians and Surgeons 1921. F.A.C.P. Attending Physician, Grace Hospital. Assistant Attending Physician, New Haven Hospital. Instructor, Yale Medical School. Assisting Physician, Yale Uni-

versity Department of Health. His subject is "A Case of Glomerulonephritis with Three Azotemic Episodes." Page 547. Address: 66 Trumbull Street, New Haven, Connecticut.

ROGERS, HORATIO. A.B., M.D. Harvard University Medical School 1923. F.A.C.S. Assistant Surgeon, Pondville Hospital. Assistant Surgeon to Outpatients, Massachusetts General Hospital. Consulting Surgeon, Massachusetts Eye and Ear Infirmary and Heywood Memorial Hospital, Gardner. Visiting Surgeon, Vincent Memorial Hospital. Assistant in Surgery, Harvard Medical School. Address: 264 Beacon street, Boston, Mass. Associated with him is

NATHANSON, IRA T. M.S., M.D. Northwestern University Medical School 1930. Resident Surgeon, Pondville Hospital. Address: Pondville Hospital, Wrentham, Mass. Their subject is "Chronic Cystic Mastitis. Practical Management in a Cancer Clinic." Page 551.

JOHNSON, HERBERT LESTER. M.D. Tufts College Medical School 1914. F.A.C.S. Courtesy Staff, Faulkner and St. Margaret's Hospitals. His subject is "An Exposition of the Preparation and Administration of Amniotic Fluid Concentrate." Page 557. Address: 520 Beacon Street, Boston, Mass.

HARTWELL, JOHN A. Ph.B., M.D. Yale University School of Medicine 1892. F.A.C.S. Former Director of Surgery at Bellevue Hospital. Clinical Professor of Surgery, Cornell University Medical College. Director, The N. Y. Academy of Medicine. His subject is "Your Profession and Society." Page 559. Address: 2 East 103rd Street, New York City.

CHADWICK, HENRY D. M.D. Harvard University Medical School 1895. Formerly, Superintendent of the Westfield State Sanatorium, and Tuberculosis Controller in Detroit, Michigan. Now, Massachusetts Commissioner of Public Health. His subject is "The Prolongation of Life." Page 566. Address: State House, Boston, Mass.

The Massachusetts Medical Society

SPECIAL MEETING OF THE COUNCIL

A SPECIAL meeting of the Council of the Massachusetts Medical Society will be held in John Ware Hall, Boston Medical Library, 8 The Fenway, Boston, on Wednesday, April 3, 1935 at 12 o'clock, noon.

Business:

1. Reading record of last meeting in abstract.
2. Report of Committee of Arrangements for Annual Meeting.
3. Consideration of the Report of the House of Delegates of the American Medical Association, February 15 and 16, 1935.
4. Incidental Business.

ALEXANDER S. BEGG,
Acting Secretary.

Boston, March 26, 1935.

Councilors are reminded to sign one of the attendance books before the meeting.

NOTICE TO MEMBERS

INSTRUCTIONS of the Massachusetts Medical Society Council require that names of members in arrears be taken from the mailing list of the *New England Journal of Medicine* March 1. If you fail to receive the *Journal,* this may explain the reason.

SECTION OF OBSTETRICS AND GYNECOLOGY*

THOMAS ALMY, M.D.,
Chairman,
140 Rock Street,
Fall River, Mass.

C. J. KICKHAM, M.D.,
Secretary,
524 Commonwealth Avenue,
Boston, Mass.

WHAT IS THE MOST EFFICIENT TREATMENT OF CHRONIC EROSION OF THE CERVIX?

In answer to this question it is essential to first determine its causative factor. Infection is the major factor in its etiology as the cervix is exposed to sex trauma, lacerations and instrumentation throughout the sex life of the patient. Gonococcus, streptococcus, staphylococcus and other bacteria penetrate the cervical canal by such means. Twenty per cent of the gonorrheal and forty per cent of the non-gonorrheal cases are productive of erosions. Therefore all erosions are not necessarily gonococcal cervicitis, but are more often simply chronic conditions of the non-specific type.

In the treatment of cervical lesions—namely erosions, eversions, endocervicitis, and lacerations, the underlying histopathology must be considered. Various methods of eradication are used as the lesions often overlap and demand definite procedures. This is due to the fact that the accompanying infection is the factor, which produces the symptomatology and morbidity not the erosion itself. Various measures have been advocated in an attempt to destroy the infection, in the complicated racemose glands, which tends to make the lesion a chronic one. These may be classified as chemical, thermal, electrical and surgical.

Local applications of various antiseptic drugs are useless in the chronic type of lesion as they fail to penetrate the underlying pathology.

*A series of short selected articles by members of the Section will be published weekly.
Comments and questions by subscribers are solicited and will be discussed by members of the Section.

These drugs such as iodine, mercurochrome, aniline dyes, and silver solutions may be effective in superficial lesions. The local use of powders vaginally is mechanical and non-medical except in Trichomonas vaginalis. The local injection of two per cent mercurochrome or one per cent methylene blue in saline solution into the cervical tissue may work in specially selected cases but is not worthy of routine use.

In the thermal and electrosurgical methods, diathermy, coagulation and high frequency currents are used. With diathermy the temperature can be elevated to only 116 degrees Fahrenheit without physiological destruction. Cautery, which involves coagulation, lies between 122 and 140 degrees Fahrenheit, while the cutting high frequency current is in a range above 160 degrees Fahrenheit.

The use of heat either by the Remington, Cherry, Hyams or Dickinson method is contraindicated during an acute cervical infection or in the presence of acute or subacute salpingitis as it may produce a parametric infection, pelvic abscess or peritonitis.

The Remington and Cherry methods are coagulative in type, the Dickinson method involves the use of nasal tip cauteries, while the Hyams is a high frequency cutting method which removes the entire cervical mucosa in one sitting. By the use of these cautery methods one or more applications at two or three week intervals may be required to destroy the abnormal epithelium and deep infection.

With the Hyams' method, which the writer considers the best, and which, borne out in an experimental investigation of these methods in animals, was carried out in the Surgical Research Laboratories of the Boston City Hospital by Boland and Maddock, the coning is accomplished in one sitting and six to eight weeks are required for healing.

In some cases if the cervical canal infection is corrected, the cervix will recede to normal due to drainage, and less destruction is required. This last principle depends upon the operator's experience and judgment in the use of these modalities. Following any of these methods profuse discharge of a watery character is produced for about ten days due to the slough which is present. The slough gradually separates and the cervix shrinks to normal. Healing depends upon the extent of the lesion. Douches and coitus are contraindicated while the slough is present lest bleeding occur and hemorrhage be produced. Gentleness is required as the operator, unless acquainted with the use and application of these modalities, can encounter severe difficulty. These electrosurgical methods should not be applied unless the operator is able to cope with the situation if surgical intervention is required. Excision of precancerous and malignant specimens for biopsy has removed the dangers of reimplantation and dissemination of cancer cells in questionable cases. The Schiller test is indicated in all cases before either cauterization or removal is attempted. These electrosurgical methods are not opposed to regular operative procedure, but their application when applied and indicated may afford an answer to a difficult problem. The fact that these methods can be performed as an office procedure and saves hospitalization is of advantage.

SECOND ANNUAL POSTGRADUATE MEDICAL EXTENSION COURSE

The following sessions have been arranged by the Committee for the week beginning March 31:

Barnstable

Sunday, March 31, at 4:00 P.M., at the Cape Cod Hospital, Hyannis. Subject: Obstetrics and Gynecology (Third Session). John I. B. Vail, M.D., Chairman.

Berkshire

Thursday, April 4, at 4:30 P.M., at the St. Luke's Hospital, Pittsfield. Subject: Obstetrics and Gynecology (Third Session). Albert C. England, M.D., George S. Reynolds, M.D., Chairmen.

Bristol North (Attleboro Section)

Tuesday, April 2, at 4:00 P.M., at the Sturdy Memorial Hospital, Attleboro. Subject: Endocrinology (Third Session). William M. Stobbs, M.D., Chairman.

Bristol North (Taunton Section)

Wednesday, April 3, at 7:30 P.M., at the Morton Hospital, Taunton. Subject: Obstetrics and Gynecology (First Session). Arthur R. Crandell, M.D., Chairman.

Bristol South (Fall River Section)

Monday, April 1, at 4:00 P.M., at the Stevens Clinic of the Union Hospital, Prospect Street, Fall River. Subject: Surgery (Third Session). Eugene A. McCarthy, M.D., Sub-Chairman.

Bristol South (New Bedford Section)

Friday, April 5, at 4:00 P.M., at the St. Luke's Hospital, New Bedford. Subject: Endocrinology (Third Session). Harold E. Perry, M.D., Chairman.

Essex North

Tuesday, April 2, at 4:00 P.M., at the Hotel Bartlett, 95 Main Street, Haverhill. Subject: Obstetrics and Gynecology (First Session). Francis W. Anthony, M.D., Chairman.

Essex South

Tuesday, April 2, at 4:00 P.M., at the Salem Hospital, Salem. Subject: Cardiovascular Disease (Second Session). Walter G. Phippen, M.D., Chairman.

Franklin

Wednesday, April 3. The session will be omitted on this date.

Hampden

Thursday, April 4, at 4:00 P.M., at the Academy of Medicine, Professional Building, 20 Maple Street, Springfield, and at 8:00 P.M., at the Holyoke City Hospital, Holyoke. Subject: The Common Neuroses and Their Treatment in Private Practice. The Psychoses—Early Diagnosis. George L. Schadt, M.D., Chairman.

Middlesex East

Wednesday, April 3, at 4:00 P.M., at the Melrose Hospital, Melrose. Subject: Cardiovascular Disease (Third Session). Joseph H. Fay, M.D., Chairman.

Middlesex North

Friday, April 5, at 7:00 P.M., at the St. John's Hospital, Lowell. Subject: Cardiovascular Disease (Second Session). Frederick P. Murphy, M.D., Chairman.

Norfolk (Faulkner Hospital Section)

Monday, April 1, at 4:00 P.M., at the Faulkner Hospital, Jamaica Plain. Subject: Obstetrics and Gynecology (First Session). Hugo B. C. Riemer, M.D., Chairman.

Suffolk

Monday, April 1, at 8 P.M., in Sprague Hall, Boston Medical Library, Boston. Subject: Gynecology (One Session). Reginald Fitz, M.D., Chairman.

Worcester (Milford Section)

Thursday, April 4, at 8:00 P.M., at the Milford Hospital, Milford. Subject: Surgery (First Session). Joseph I. Ashkins, M.D., Sub-Chairman.

Worcester (Worcester Section)

Wednesday, April 3, at 7:30 P.M., in the Nurses' Home of the Worcester City Hospital, Worcester. Subject: Dermatology and Syphilis. Erwin C. Miller, M.D., Chairman.

Worcester North (Ayer Section)

Thursday, April 4, at 8:00 P.M., at the Ayer Community Memorial Hospital, Ayer. Subject: Surgery (Third Session). Frank S. Bulkeley, M.D., Chairman.

MASSACHUSETTS LEGISLATIVE NOTE

H. 1458. A bill to create a board of examination and registration to regulate the practice of magnetic healers.

Report, leave to withdraw.
Accepted in House.

MISCELLANY

APPOINTMENTS AT THE TUFTS COLLEGE MEDICAL SCHOOL

Dr. Edward A. Joy has been advanced to the position of assistant professor of anatomy; Dr. Carmi R. Alden became assistant professor in Materia Medica.

Dr. Julius Abramson, Dr. David Littman, Dr. Irving Schiller, and Dr. Morton Stern are appointed as instructors.

Dr. Selwyn L. Steel and Dr. Robert I. Phillips were appointed assistants in the Department of Medicine; and Dr. Thomas E. O'Brien, assistant in the department of clinical medicine in the Dental School.

THE ANNUAL DINNER OF THE TUFTS COLLEGE MEDICAL SCHOOL ALUMNI ASSOCIATION

Nearly four hundred members of the Alumni Association of Tufts College Medical School attended the annual dinner at the University Club, March 20, 1935.

Three of the oldest living graduates were present in the persons of Dr. Edward E. Thorpe of Newton Centre, Dr. William A. White of Roxbury, and Dr. Charles D. Knowlton of Cambridge.

The following-named members were selected for a five-year term to the Executive Council: Dr. Elmer S. Bagnall of Groveland, Dr. Frank H. Dunbar of Boston, Dr. Samuel F. Gargill of Boston, Dr. Frederick W. O'Brien of Boston, and Dr. James J. Regan of Waltham.

Dr. Robert T. Phillips, secretary-treasurer, announced that the Tufts College Medical School graduates have a larger representation in the membership of the Massachusetts Medical Society than any other school.

Seated at the speakers' table were Dr. Louis E. Phaneuf, president of the alumni association; Dr. A. Warren Stearns, dean; Dr. Alonzo K. Paine, toastmaster; Dr. Louis Hermanson, Dr. John L. Doherty, Dr. Benedict F. Boland, Dr. Edward M. Hodgkins, all of Boston; Dr. James B. Bigelow, Holyoke; Dr. W. F. Patterson, Charlestown; Dr. Louis A. O. Goddu, and Dr. Frank H. Dunbar, also of Boston.

"OLEO" RACKETEERS SENTENCED; OTHER FOOD CHEATERS PUNISHED

The government's case against the racketeers who packed oleomargarine in butter wrappers was terminated February 13 at Boston, Mass., with a fine of $2,000 against the Fellsway Cheese Co., Stoneham, Mass., a sentence of eighteen months in the Lewisburg penitentiary for Vincent Bruzzese, the "brains" of the outfit, and a fine of $500, suspended, against Katherine McDevitt, who was placed on probation for one year. This action was prosecuted under the conspiracy section of the United States penal code because the Federal Food and Drugs Act does not permit the imposition of penalties which are commensurate with the fraud involved in a case of this sort.

In October, 1934, the firm of Chapin & Adams, Boston, Mass., was fined $100 for having made shipments of the same butter substitute labeled as butter. In January, 1935, Morris Silver of Manchester, N. H., also implicated in these dealings, was fined a total of $750 for violation of the Food and Drugs Act, evasion of tax, and conspiracy with Harry T. Withycomb and Vincent de Mauro to attain these ends. Both Withycomb and de Mauro have pleaded guilty.

A form of adulteration relatively rare to-day brought a fine of $100 to Milnarick Brothers, River Rouge, Mich., who mixed corn syrup and sugar with their honey to increase their profits. The jars of this mixture, which was labeled "Honey," were also short weight.

The Sphinx Chocolate Corporation was fined $300 in Federal court at Brooklyn, N. Y., on February 6, for having shipped chocolate cordial "cherries," filled with nothing but artificially colored seedless grapes in syrup, like the "Cherri-Berri Decorettes" recently proceeded against, packed by a New Jersey fruit producer and canner.

The makers of Kal, Inc., and Bernard Ackerman, shippers of "Kal," were fined a total of $153 at Los Angeles. "Kal," a compound of lime, phosphorus, rice by-products, a malt product and cocoa, was labeled with claims of benefit in tooth decay, acidosis, nervous irregularities, rickets, anemia, pyorrhea, glandular disorders, high and low blood pressure, asthma, hay fever and tuberculosis, which claims the government alleged were false and fraudulent, as an article of such composition could have no appreciable effect against those disease conditions. "Kal" sold at sixty-five cents a pound.

Reports of the following terminations of prosecutions for violation of the Food and Drugs Act have also been received: R. E. Cobb, Co., Valley City, No. Dak., Arnold Coöperative Creamery Co., Arnold, Nebr., and Hattiesburg Creamery and Produce Co., Hattiesburg, Miss., low-fat butter, fines of $10, $50, and $50, respectively; Nash-Underwood Co., Inc., Chicago, Ill., prepared mustard adulterated with mustard bran, fine $100; Ray-Maling Co., Hillsboro, Ore., decomposed canned prunes, fine $180; C. F. Simonin's Sons, Inc., Philadelphia, Penna., short volume salad oil, sentence suspended, defendant placed on probation; and PX Products Co., Detroit, Mich., "PX" for eczema, rashes, boils, sores, infections, tonsilitis, pyorrhea, trench mouth and female disorders, which claims were false and fraudulent, fine $100. The cases were instituted following seizure of the violative shipments.

Other cases terminated were Continental Baking Co., Ogden, Utah, and Continental Baking Co., Spokane, Wash., short weight bread, fines of $26 and $30, respectively; John McGee and Lloyd Dornan, Fennville, Mich., currants bearing poisonous spray, fined $25 each; Planters Cotton Oil Co., Dallas, Texas, Hespenheide and Thompson, York, Penna.; the Welty Co., Chicago, Ill., "Ker-Ene," labeled as a treatment for skin and scalp diseases, pyorrhea, croup, quincy, ringworm, tonsilitis, bronchitis, laryngitis, pneumonia, hay fever, catarrh, ulcers, rheumatism, sciatica, lumbago, gout, neuralgia, piles, snake bite and tape worms, in which conditions the product would be ineffective, fine $2; and Fred F. Wanner & Sons, Philadelphia, Penna., a substandard drug product (capsules Diginine), fine $25.

During February, there were seized thirty-one shipments of tomato puree, catsup and paste, the Food and Drug Administration reports. The goods, packed in California, Ohio, Indiana, Kentucky, Utah, and New York, were in every instance adulterated because of the presence of mold, arising from the use of partially decomposed raw tomatoes. One lot of canned tomatoes shipped by a packer in Baltimore, Md., found to contain maggots, was also seized. Other violations in this class are shown by the seizures of the following commodities during the same period: wormy fresh spinach, decomposed canned mackerel and frozen shrimp, worm-infested whitefish, insect-infested canned huckleberries and raspberries, filthy cream, and ten thousand pounds of dirty butter.

Fraudulent salad oils are still on the market. Three lots were picked up in Rhode Island and Massachusetts, bearing misleading statements as to composition, deceptive designs and pictures, and Italian wording to heighten the foreign effect. One brand, a mixture of vegetable oils with a small proportion of olive oil, was labeled "Pure Olive Oil."

Poison spray residues resulted in the seizure of 3,500 bushels of apples grown in Michigan, New Jersey, Idaho and Washington, and found in interstate commerce. Sweet pickles, containing benzoate of soda without label information to that effect, short in volume, and one lot of which contained saccharin, were seized at Kansas City, Kansas. They had been shipped by a manufacturer in St. Louis, Mo. Other products seized during February were short weight honey, brandy with an overstatement of the amount of alcohol present, two lots of below-standard canned peas, a shipment of short weight petrolatum, and a large lot of old and deteriorated pharmaceuticals shipped by the Southwestern Drug Corp., Houston, Texas, to New Orleans, La.

Patent medicines confiscated last month included "Pyorrhex Chewing Gum" labeled as a preventive of pyorrhea; "Poloris Dental Poultice" for toothache, abscess, pyorrhea and gingivitis; "Lucorol" for women; "Tussamag," a cough syrup bearing claims for bronchitis, asthma, whooping cough, pneumonia and tuberculosis; "Ditman's Sea Salt," an impure rock salt labeled as a treatment for rheumatism and debility; "Chlorine Respirine," a mixture of petrolatum with calcium compounds, for bronchitis, laryngitis, whooping cough and influenza; "Kay's Ointment," "Kay's Leg Powder" and "Kay's Oil," for leg sores; "Vaporine Ointment" for coughs, congestion, catarrh and tonsilitis; and "Antiseptine," which was found to be not antiseptic, and bore claims of benefit in cases of laryngitis, pharyngitis, tonsilitis, sore throat, rheumatism and dandruff. In all instances, the government alleged that the medicinal claims made for these articles were in excess of their possibilities.—*U. S. Department of Agriculture.*

HEALTH OFFICERS' MONTHLY STATEMENT OF VENEREAL DISEASES REPORTED

JANUARY, 1935

This statement is issued monthly for the information of health officers in order to furnish current data as to the prevalence of the venereal diseases. The following reports were received from State Health Officers.

State	Syphilis		Gonorrhea	
	Cases Reported During Month	Monthly Case Rates per 10,000 Population	Cases Reported During Month	Monthly Case Rates per 10,000 Population
Connecticut	234	1.42	154	.94
Maine	67	.84	49	.61
Massachusetts	410	.95	468	1.09
New Hampshire (b)				
Rhode Island	98	1.40	112	1.60
Vermont	19	.53	29	.80

(b) Has been reporting regularly but no report received for current month.

—*Treasury Department, Public Health Service.*

CORRESPONDENCE

ART AS EXHIBITED BY DOCTORS

Editor, *New England Journal of Medicine,*

Why should doctors be interested in art?

Inasmuch as they are just people, doctors should be interested in art, primarily, in appreciation of craftsmanship and of beauty, in appreciation of the loveliness of form and pattern and color—in appreciation of that indefinable oneness with the world—apart from the complications of civilization (so-called)—that is one of the fine joys of life.

Lovely painting, like good music, like the best poetry, may be, for those originally sensitive and sensitized by culture, a very deeply felt delight, a very important part of life.

And because they have some culture and are more human, less engrossed in the marts of trade and the ways of holding-companies than most, the doctors should value highly the delights of artistic appreciation.

But as to the artistic, *creative* side!

In a recent talk before the Physicians' Art Society here, Mr. Cyrus Dallin, noted sculptor, gave an unusual rendering of his theme as to this.

A Westerner, raised in Indian contacts, a man of the broad prairie, despite his many years of the studio, Dallin is still the outdoor man, sensitized to the mystery of the world, steeped in the mysticism, often half-articulate only, of the man close to nature.

To him the artist's insight is a gift, his high moment a brief contact with the universal consciousness, of vivid vision, which he then endeavors to record, as best he may, for others.

The thought, not new, is psychologically very close to the line.

And only those who have not only the sense of beauty but the capacity for reverence for the great unseen forces are really, in the best sense,—artists.

And, coming closer to technical matters, Dallin stressed vividly what is so often overlooked, namely, that in sculpture and in painting the lack that makes expression fail so often is a curious lack—curiously common—the trick of seeing the world in two dimensions only.

Sheer "diaper" design murals and wall paper things may be handled in one plane, two dimensions, only.

But the world about us is three dimensions, inevitably.

And to far too many the third dimension means so little!

Dallin says that educating this queer blindness out of art students is a major part of his teaching job.

In his direct phrase, he says, "I can't teach them to draw or model, all I can do is to teach them to see."

Now, oddly enough, this lack of seeing is the blind side of so many medical men!

And of surgical aspirants, so much and much the more.

The man who sees his anatomy like that of the unfolding flat leaves of one of those weird great charts one sees in some offices,—who cannot without real effort *visualize* the position of the appendix or the common gall duct without charts, measurements or surface landmarks — this man is under handicap.

It has been proposed that there be in the medical school curriculum some instruction in drawing.

It might seem that we should expect highly educated young men to be able to express themselves with the pencil as well as with the pen, but, save for rare exceptions, they are not. The indicated instruction must necessarily be cramped as to time but it needs but little time to show a keen man what the third dimension means, to have him understand that a drawing is the representation of whatever may be in front of him, reduced from three dimensions to two, to give him some clear idea of perspective (*not* exact mechanical perspective), and to put him in position to draw what he sees or what he wishes to tell, with such skill of hand as God gave him, or practice can help him develop. It is too common to suppose that only those particularly gifted can draw. This is pure nonsense. Anyone can learn to draw, though it comes very much easier to those who like to draw, probably in many cases those to whom translation from three planes to two is as instinctive as it was to some of our plains Indians or to the cave men of the Cromagnon.

We are not speaking here of artistry of high grade,

but of learning to express graphically what one sees, or what one would like to show.

Years ago one Dr. Larned wrote of "graphics" as opposed to the artists' use of line and color, and the distinction is fair enough, the phrase good. What it may be well to consider is the imparting to medical students of a skill of expression in drawing comparable to such knowledge of the English language as may make difficult communication with one's fellow men a bit easier.

It is suggested that every medical student be taught to draw. He is now required to make microscopic two dimensional drawing. So far, well enough. But he should learn to *make pictures*, with understanding of *three* dimensions. No one expects great artistry.

But, if the student learns a bit of this, he cannot only do his own illustrations—authentically—but he gains, with every drawing, in his knowledge of the visible world and of that part of it which is his pasture—the human body.

Here in Boston we have had a few men who have worked this out to their no slight advantage: Dr. William Rimmer, Dr. George H. Monks, Dr. William P. Graves, Dr. Harris Mosher and the writer.

And Dr. Robert L. Dickinson of Brooklyn and New York has done better work and learned more thereby than any of us.

To all of us the ability to set down in black and white what we have to tell of what we have seen, what we have conspired and contrived to do, is of importance—of great importance to us.

With skill to do this small thing we are freed from thraldom to the professional draughtsman, who can everlastingly draw, but doesn't know what it is about.

We are in command of our own means of expression.

And later may come to the doctor further study, further practice growing out of this beginning and some sort of creative work for its own sake, and for the sake of joy of building and doing.

And so we come back to our beginning and question, partly answered, of the reasons for the physician's interest in art.

Very truly yours,

FREDERIC J. COTTON, M.D.

THE CANCER PROBLEM

Editor, *New England Journal of Medicine*,

Cancer is becoming day after day the problem of civilization itself. We can say safely that this malignant disease removes from humanity hundreds of thousands every year. It has been said on authoritative sources, that one woman out of seven and one man out of eleven above the age of thirty-five are victims of this disease. The whole scientific and medical world is in search for more light on the subject of cancer, and endeavors to discover more and more knowledge of its etiology, course, signs and treatment.

After years of study at home and abroad, and painstaking research work, William Seaman Bainbridge, A.M., M.D., C.M., LL.D., a well-known surgeon in New York City, had his book "The Cancer Problem" published in 1914. Since then the book has been brought up to date and translated from English into French, Spanish, Italian and Polish. The author, whom I have the pleasure to know well, was kind enough to send me a copy of the book in French in 1932, and now I have just finished reading the Arabic edition.

As one of many Arabic speaking physicians in this country, coming from the Near East, and conscious of the fact of what the East contributed to the West in medicine and science, and what the Arabs particularly contributed to the medical world, I can not but express my gratitude and satisfaction not only to Dr. Bainbridge, and my congratulations to him on this his beautiful work, but to Joseph A. Hitti, M.D., and Shakir K. Nassar, B.A., both of Beyrouth, Syria, who did the translation into the Arabic language. In this edition the author has added his latest information and discoveries on the subject. The Arabic edition, a book of 219 pages, printed on beautiful paper in the American Press of Beyrouth, is dedicated, and for good reason, to no less a man than that great benefactor and humanitarian, George E. Post, the famous surgeon who for forty-two years taught surgery in the American University of Beyrouth, and who, by the way, was a good friend of the author. And in this Arabic edition, my distinguished friend, Philip K. Hitti, Ph.D., of Princeton University, wrote a very interesting chapter on the history of Arab medicine. I have no doubt that this work on cancer, the first of its kind in the Arabic language, will be both beneficial and interesting to the Arabic speaking world. As a physician, I can only say that this is one of the most complete works on cancer I have ever read.

RASHID TAKY DEEN, M.D.

811 Walton Avenue,
Bronx, New York City.

COMMITTEE ON PUBLIC RELATIONS OF THE MASSACHUSETTS MEDICAL SOCIETY

March 18, 1935.

Editor, *New England Journal of Medicine*,

I notice in the *Journal* received this morning, on page 490, an announcement, "Sub-Committees of the Committee on Public Relations." For over a month, I have been trying to find out who are the members of the Committee on Public Relations. Dr. Blakely informed me that the names of the Committee are in the Medical Journal—but not there. I have asked members here and can't find out who they are. Hence, to whom should a communication be sent for the purpose of bringing to their attention an important matter?

I would appreciate your giving me the names of the Committee. May I add, why are their names not mentioned as are the members of the other Committee on page ii of the *Journal*?

Very cordially yours,

EDWARD H. TROWBRIDGE, M.D.

36 Pleasant Street, Worcester, Mass.

EDITORIAL NOTE: The Committee on Public Relations is not a Standing Committee, and therefore was not included in the list presented by the Secretary for publication. The list is appended:

MEMBERSHIP OF THE COMMITTEE ON PUBLIC RELATIONS

*The President, William H. Robey, Chairman
*Charles E. Mongan, Vice Chairman
*Elmer S. Bagnall, Secretary

Adequacy of Medical Care
Ernest L. Hunt, Chairman
Worcester
Halbert G. Stetson
Greenfield
Patrick J. Sullivan
Dalton

Social Legislation and Insurance
Michael A. Tighe, Chairman
Lowell
Patrick E. Gear
Holyoke
Walter A. Lane
Milton
Charles E. Mongan
Somerville
Halbert G. Stetson
Greenfield

Public Health and Practitioner Public Information
Channing Frothingham, Chairman
Boston
Merrill E. Champion
North Harwich
William G. Curtis
Quincy
William F. MacKnight
Fall River

Hospital Relations
J. Harper Blaisdell, Chairman
Winchester
Francis H. Dunbar
Mansfield
Channing Frothingham
Boston
Thomas H. McCarthy
Brockton
Walter A. Lane
Milton

Medical Education and Licensure
Francis H. Dunbar, Chairman
Mansfield
Harry R. Nye
Leominster
Francis E. O'Brien
Haydenville
Harper E. Whitaker
Gloucester

*Members ex-officio of all committees.

OFFICIAL ACTIONS OF THE BOARD OF REGISTRATION IN MEDICINE

STATE HOUSE, BOSTON

SUSPENSION OF REGISTRATIONS

Editor, *New England Journal of Medicine*,

This is to inform you that at a meeting of the Board of Registration in Medicine held March 14, 1935, it was voted to suspend for one month the registration of Dr. Joel Ginsburg, 127 Washington Street, Dorchester, Massachusetts, because of deceit in connection with automobile accident insurance claims.

The registration of Dr. Eli Silverman was suspended for six months because of deceit in connection with automobile accident insurance cases.

Very truly yours,
STEPHEN RUSHMORE, M.D., *Secretary*.

RECENT DEATHS

BIGELOW—GEORGE HOYT BIGELOW, M.D., of Milton, Massachusetts, died December 3, 1934. He was born in 1890, the son of Dr. E. H. Bigelow and Mrs. Agnes Elizabeth (Cutter) Bigelow, graduated from Harvard College in 1912 and from the Harvard Medical School in 1916. After an interneship at the Massachusetts General Hospital, he joined the medical corps of the United States Army, serving at the Rockefeller Institute, Fort Sam Houston, base hospital at Spartanburg and overseas at Allercy. On returning to this country in 1919, he engaged in the study of frambesia in Santo Domingo, later returning to the Harvard School of Public Health, graduating therefrom in 1921. He accepted a position in Antioch College in the department of industrial medicine and later Cornell Medical College as director of the clinic.

In 1924 Dr. Bigelow became Director of the Division of Communicable Diseases in the Massachusetts Department of Public Health rising to the position of Commissioner of Public Health in less than two years. In 1933 he resigned and was appointed Director of the Massachusetts General Hospital to occupy the position made vacant by the resignation of Dr. F. A. Washburn.

His administration of the Department of Public Health was marked by notable contributions to sanitation and extension of service in many other ways. The Massachusetts cancer program with the hospital at Pondville will stand as one of the important contributions to progress in this Commonwealth which led to his election as President of the American Society for the Control of Cancer.

Dr. Bigelow was a Fellow of the Massachusetts Medical Society, the American Medical Association, and a member of many national and local societies.

Dr. Bigelow is survived by his widow, Mrs. Margaret (Wesselhoeft) Bigelow; two children, a daughter of sixteen and a son of fourteen years; his father and mother, Dr. and Mrs. Enos H. Bigelow, of Framingham, and two brothers.

LILLIBRIDGE — BYRON J. LILLIBRIDGE, M.D., of Braintree, Massachusetts, a retired physician, formerly of Providence, Rhode Island, died at the home of his daughter, Miss Ethel V. Lillibridge, in Miami, Florida. He was born in 1860, and graduated from the Jefferson Medical College in 1882.

He practiced for many years in Providence, Rhode Island, and was a member of the Rhode Island State Medical Society. Since retiring from practice, he had been living in Braintree, except for visits in the South.

In addition to the daughter mentioned, he is survived by another daughter, Mrs. Ernest W. Mann, of Braintree, and a son, Byron J. Lillibridge, Jr.

MacLEOD—PROFESSOR JOHN JAMES MACLEOD died in Aberdeen, Scotland, March 17, 1935.

Together with Sir Frederick Banting, he received the Nobel prize in medicine in 1923, for the discovery of insulin. Professor MacLeod was a member of the faculty of Western Reserve University at Cleveland from 1903 to 1918, and for the next ten years was associate dean of the University of Toronto Medical School.

Before coming to America, Professor MacLeod studied at Leipzig, and served as demonstrator in physiology at the London Hospital, later being appointed lecturer in biochemistry. He had many honorary degrees and had written important articles.

He was president of the American Physiological Society in 1922, and at the time of his death, he was Regius professor of Physiology.

COFFIN — JOHN LAMBERT COFFIN, M.D., of Northboro, Mass., with an office at 220 Clarendon Street, Boston, died at his home, March 14, 1935.

He was born in East Boston in 1852, a son of Abel and Julia (Holland) Coffin. He graduated from Tufts College in 1871 and from Boston University School of Medicine in 1876. He formerly practiced in Medford, Mass., and after studying dermatology in New York and Boston, specialized in diseases of the skin. His office was in Boston.

He was a member of the Massachusetts Homeopathic Society, a trustee of the Northboro Public Library, chairman of the local Red Cross organization during the World War, and trustee of the Westboro State Hospital.

Dr. Coffin was professor of dermatology at the Boston University School of Medicine, later retiring with the designation of emeritus professor. For several years he was editor of the *New England Medical Gazette*. He was a Mason.

His widow, Mrs. Annie W. (Jones) Coffin, and two daughters, the Misses Louisa W., and Julia M. Coffin, of Northboro, survive him.

BARRELL — MARY ELIZABETH BARRELL, M.D., of York, Maine, and formerly of Worcester, Mass., died at her home, March 14, 1935, aged 72 years. She was born in York and after graduating from Brackett Academy and attending the Gorham (Maine) Normal School she matriculated at the Woman's Medical College of Pennsylvania in Philadelphia, graduating therefrom in 1897. She settled in Worcester, Mass., specializing in gynecology but included general practice. She was a former member of the Worcester Board of Public Welfare and the staff of the Memorial Hospital.

She joined the Massachusetts Medical Society in 1899 and resigned in 1934. She was also a Fellow of the American Medical Association.

Dr. Barrell is survived by two brothers, Dr. George E. Barrell, a dentist, of Boston, and William O. Barrell, of York, Maine; also two sisters, Mrs. Anna Blaisdell and Miss Theodosia Barrell, of York, Maine.

PEARCE — ARTHUR CUSHING PEARCE, M.D., of Brookline, with an office at 543 Boylston Street, Boston, died at the City Hospital, March 16, 1935. He was born in 1875, and graduated from the Harvard Medical School in 1903.

He joined the Massachusetts Medical Society in 1908, and was also a Fellow of the American Medical Association.

Dr. Pearce was a urologist.

He is survived by his widow and two children.

JACKSON—JABEZ NORTH JACKSON, M.D., formerly president of the American Medical Association, died at Kansas City, March 18, 1935. He was sixty-six years of age, and had been City Health Director for several years.

He occupied a prominent position in the Spanish-American War with the Second U. S. Army Corps, near Harrisburg, Pennsylvania.

He was associated with several hospitals as consultant, and was prominent in medical organizations in and about Kansas City.

NOTICE

REMOVAL

SAMUEL EDELSTEIN, M.D., announces the removal of his office to 371 Commonwealth Avenue, Boston.

REPORTS AND NOTICES OF MEETINGS

MEDICAL LECTURE

Doctor Christian spoke at the Peter Bent Brigham Hospital on the morning of the twenty-first of February on "Valvular Heart Disease." With the exception of luetic aortic valvular disease, almost all lesions of the valves are rheumatic. In the early acute stages of rheumatic heart disease there are changes in the joints which do not permanently damage these structures, while in the heart the acute disturbance is not very important from the point of view of damage, but the lesion continues as a chronic fibrosing change and injures one or more

valves. This rheumatic infection may acutely involve only one valve, but the most common type has several acute exacerbations over a number of years and involves more than one valve. Such valves often present non-bacterial vegetations. The adjacent edges of the cusps of these valves tend to fuse, thus shortening the circumference of the orifice, and the free edges of the cusps become thickened and often calcified. These changes lead to regurgitation and stenosis which two conditions must go together, although one usually dominates the clinical picture.

In syphilis on the other hand, we get separation of the cusps at their point of attachment and a stretching of the cusps and of the tissues at the base of the valve, so that it becomes insufficient. It is impossible for a syphilitic process to cause stenosis, and syphilis in contrast to rheumatic fever never involves any valve other than the aortic.

One type of rheumatic heart disease tends to progress rapidly and cause death in ten years or less, while the more chronic type leads to terminal heart failure in from twenty to fifty years. The latter type is often seen in pure rheumatic stenosis and is somewhat rarer than the first type. There may be calcification in any chronic fibrous tissue change, especially in older individuals. The mitral valve, consisting of two large flaps or sails which need the coöperation of the contracting fibrous ring at the base and the chordae tendineae to prevent regurgitation, is profoundly changed in the rheumatic process where there is thickening and interadherence of the margins of the flaps and a shortening and thickening of the chordae tendineae. The valve becomes like a funnel being gradually drawn into a typical "fish mouth" valve with only a small aperture. Lime salts are deposited in the flaps or underneath the flaps, as x-ray often shows. At times x-ray shows a "U" or "C" shaped shadow and this is due to lime salts in the annulus fibrosus, especially common in chronic non-valvular heart disease.

Syphilis involves the first part of the aorta more frequently than the aortic cusps, but aortitis without involvement of this valve is very difficult to diagnose, because there are practically no symptoms unless there is a dilatation of the first portion of the aorta with aortic insufficiency. Occasionally, however, syphilis involves the coronary orifices giving anginal symptoms and rarely occlusion without involvement of the cusps. By the law of chance if a patient has an aortic lesion with a history of rheumatic fever and a diastolic murmur late in diastole, the chances are that both the aortic and the mitral valves are involved, and the diagnosis of an Austin Flint type of murmur is not justified; while if the patient has lues, the diastolic murmur suggesting mitral involvement is probably an Austin Flint murmur. Experimental evidence has lent support to the latter type of murmur, since it has been produced by damaging the aortic valves of dogs.

Hemoptysis is rather common in rheumatic heart disease, due to a dilatation of the pulmonary vessels and a congestion of the lung with excessive diapedesis without the rupture of the vessels. There are also in some patients psychogenic manifestations with aura and frequently a feeling of impending danger and hallucinations before the onset of the pulmonary hemorrhage. Doctor Christian mentioned another type of pulmonary hemorrhage which tends to recur and is familial without any lesion in the heart or lungs.

Aortic stenosis is well recognized and easily diagnosed at present. It is not very rare and occurs four times as frequently in males as in females, predominantly in older individuals.

Doctor Christian in speaking of the treatment of syphilitic heart disease said that modern opinion is in favor of treating these people like other luetic patients and that the early fatalities were due to large doses of arsenicals. Now that smaller doses are used there appears to be no danger in active treatment, and the pain in particular can be well controlled and a definite slowing of the progression of the disease be brought about.

Doctor Christian spoke briefly on thyroid ablation in cardiac insufficiency where we deliberately produce one disease to counterbalance another. It produces enforced rest and is only a last resort. It must be remembered that myxedema by itself produces cardiac disturbances and that the operative mortality is high. Bothersome symptoms of myxedema develop when the basal metabolic rate is below minus twenty and thyroid extract in sufficient quantities to keep the basal metabolic rate above this level must be administered. Occasionally a patient has been greatly improved by this procedure, some are slightly better, others are made worse. The indications for this form of therapy are limited, and Doctor Christian believes that it is more important in severe anginal pain where there is no cardiac insufficiency.

THE ANNUAL CONGRESS ON MEDICAL EDUCATION, HOSPITALS AND LICENSURE

The thirty-first Annual Congress on Medical Education, Hospitals and Licensure was held in the Palmer House, Chicago, on February 18 and 19, 1935, with an increased attendance over that of last year. Although the Association of American Medical Colleges has now for over ten years held its annual meeting at a time and place other than that of the Congress, the Association was, as always, well represented at the Congress also. The keynote of these meetings is "progress," after a review of the past and frank self-criticism of the present situation. Complacency and self-satisfaction occasionally raise their heads but in the recent discussions the urgency and seriousness of the problems of to-day were not detected. An important qualification of "progress" should be made: it is progress with coöperation and by coöperation.

Perhaps the most significant address was that of Dr. Ray Lyman Wilbur who, as chairman of the Council on Medical Education and Hospitals, pre-

sented a report for the Council. The importance of periodic surveys of medical schools has been generally realized, and such a resurvey is now in the making, under the auspices of the Council, the Association of American Medical Colleges and the Federation of State Boards. Already about thirty schools have been visited and it is expected that within a year the survey will be completed and the detailed report will be presented. The procedure for the study is noteworthy. A comprehensive questionnaire is sent to the school about a month before the expected visit so that certain information is made easily available at the time of the personal visit. Then, too, all medical schools whether or not recognized as such by the Council will be invited to participate and will be surveyed if they desire. The visit is made always by two persons, the official visitor, and another, who may be a representative of the Council, the Association, or the Federation.

On the basis of very incomplete returns (less than half of the schools), it may be said that in the first place considerable "obsolescence" has been detected. It is impossible for institutions generally to take advantage quickly of the new when changes are as rapid as they have been in the past twenty-five years, but one gets the impression that the lag has been unjustifiably great. Certain weaknesses are clear: in some schools too many students for the capacity; and serious weakness or inadequacy in the teaching of psychiatry, public health and obstetrics. Nevertheless, contrasting the situation with that of twenty-five years ago, there is marked strength in the basic sciences and in the main clinical departments (except obstetrics).

There has been a growth of specialism, with some abuses, and the development of special examining boards for control. One danger here is that these special boards become "shut out" organizations: the reasonable control of specialism is a problem awaiting solution.

It is alleged that there are too many professional students. This was discussed by Raymond Walters, President of the University of Cincinnati, who referred to statistics indicating that apparently there are too many students in law, engineering, teaching and medicine. Control has been sought in several ways; of arbitrary quantitative standards, on the basis of the number some one thinks the community ought to need, President Walters disapproved. Since the main public interest is in how the medical service is rendered rather than how many physicians there actually are in the community, he pointed out the probable better solution by emphasis on quality of service; quantity of physicians is a secondary consideration. Medicine still remains primarily an individualization of service in which the expertness, the character and the vital personality of the physician are essential elements. While this does not offer an easy solution for the problem of alleged overcrowding, it is an intelligent approach to the fundamental justification for any regulation: "the greatest good to the greatest number".

In contrast with the consideration of controversial questions was the address on the History of Medical Licensure by Henry E. Sigerist, Director of the Institute of the History of Medicine, Johns Hopkins University. It was a scholarly reminder of the well-known adage, "How old the new."

Tuberculosis: Institutional and Educational Aspects was the focus of attention for one afternoon session. The astonishing gross results in diminution of the incidence and mortality of this disease are to be contrasted with what remains to be done in dealing with the "White Plague." In order to eliminate the disease, much remains to be learned of its natural history; also there is available much information widely neglected. Tuberculosis is one of the diseases of which it has been said "to know this is to know medicine". The part that the careful and thorough study of tuberculosis as a systemic disease with local manifestations, and surgical and non-surgical methods of therapy, may play in the teaching of undergraduate medical students, was set forth in masterly fashion by James A. Miller, Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons, New York.

One of the questions discussed, urgent in some communities, concerns the status of the radiologist, the pathologist and the anesthetist in regard to license to practice medicine. The wording of the topic set for discussion was unfortunate and led to some misunderstanding. Should the radiologist, the pathologist and anesthetist be licensed to practice medicine? The question at issue is rather: should the practice of radiology, pathology and anesthesia be limited to physicians licensed to practice medicine? To this question, if unqualified, there can be but one answer—Yes. But it was noted that while practice in these fields is the practice of medicine, there may be employed many technical processes, the use of which may not involve the judgment of the physician. It is the exercise of the judgment of the physician which cannot be delegated. Opinion was divided as to the necessity or expediency of licensing the required technical assistants. Whether licensed or not the tendency is for some of them to withdraw from connection with licensed physicians and to open their own offices or associate themselves with commercial enterprises and carry on in the new relation actual practice of medicine. Possibly this tendency could be checked more satisfactorily if technical assistants were licensed. In no case, however, could the responsibility of the physician to employ competent assistants be impaired. It was pointed out also that if legislation should be sought, there should be compiled information to provide the necessary basis of fact, not mere opinion, showing that there exists a situation demanding remedial legislation for the protection of the public. One justification for the employment of technical assistants, namely, that there are not enough physicians who are competent pathologists, radiologists and anesthetists should be called to the attention of those persons who complain that there are now too many physicians. This

contradiction indicates that not all the factors involved have been brought out into the daylight.

There was a spirited discussion of osteopathy, stimulated by the synopsis of a report of a survey of some osteopathic schools in the United States made by Dr. Frederick Etherington, of Queen's University, Kingston, and Dr. Ryerson of the University of Toronto, on behalf of the Province of Ontario, when osteopathic physicians had asked for extension of privileges. It was pointed out that the theory of osteopathy and the theory of scientific medicine are incompatible, that no experimental evidence to support the theory of osteopathy had ever been submitted, and that whatever benefit patients may receive from the ministrations of osteopathic physicians, it is not from osteopathy, if this term has any specific meaning. The survey indicated that the equipment, clinical facilities and instruction were of a grade distinctly below that of good schools of medicine. The characterizations were rather caustic and stimulated replies by osteopathic physicians, who submitted little evidence on the question at issue. It is to be hoped that the schools of osteopathy in this country will accept the opportunity for such a study as the Council now offers to schools of medicine which it has hitherto failed to recognize.

At the annual dinner of the Federation of State Boards, Dr. Sigerist gave a delightful informal talk on Sidelights on the Practice of Medicine. He referred chiefly to the writings of Henri de Mondeville, which indicated that however much the science and art of surgery have changed, human nature was just about the same these hundreds of years ago as it is now.

NEW ENGLAND OPHTHALMOLOGICAL SOCIETY

A meeting of the New England Ophthalmological Society was held at the Massachusetts Eye and Ear Infirmary on the nineteenth of February. Dr. James J. Regan, the president, presided. The first case was presented by Dr. David Cogan and was that of a nine year old boy with marked head tilting since infancy. This was caused by a congenital paresis of the left superior rectus muscle. If the head was forced to the erect position, the right eye deviated fifteen degrees upward, and the patient used his paretic eye for fixation. The reason for this has been said to be that the visual acuity may be greater in the paretic eye, or that this eye is dominant, or that the separation of images is greater and the diplopia less annoying if the paretic eye is used. The last explanation is probably the most common reason for fixing with the paretic eye. When the patient looked to the left there was a marked apparent overaction of the inferior oblique on the right side.

The second case, presented by Dr. Charles Walker, was a seventy year old man who had had difficulty with his eyes since childhood. He had a sensation of the presence of a foreign body in the left eye, and on examination elevated deposits of calcium were found on the bulbar conjunctiva. This diagnosis was confirmed pathologically and an attempt was made with some success to remove these deposits by using twenty per cent neutral ammonium tartrate.

The third case, presented by Dr. Roger Irvine, was that of a fourteen year old boy who entered with a squint which he had had since five years of age. After an operation on the muscles there was some improvement, but there is still a deviation of ten degrees in the left eye when he fixes with the right. Doctor Lowell spoke briefly of a new method of operating for such strabismus in which the central part of the muscle fibers are cut near the eyeball, while the ones near the edge are cut farther back; thus leaving an attachment to hold the eye in place.

Dr. James Watson White presented the paper of the evening on "The Diagnosis and Treatment of Vertical Strabismus." The superior rectus is most commonly affected and since the primary deviation is much less than the secondary deviation, the patient tends to fix with his paretic eye, although twenty-five per cent of the cases fix with the nonparetic eye. Several slides were shown to demonstrate the relations of the different muscles. There are three uses of the superior rectus: elevation, intorsion, and adduction. If the muscle can be proved defective in elevation, the other functions are also at fault. The superior rectus and the inferior oblique function in the temporal field, while the inferior rectus and the superior oblique function in the corresponding nasal field. Hyperphoria is found by looking to one side and then upwards and downwards to see where the deviation is greatest, and it is the corresponding muscle which is at fault. Primary overactions are very rare and cases of strabismus are usually due to a secondary contracture of the direct opponent, or to a secondary deviation.

Doctor White then took up examples of numerous types of cases to illustrate the diagnosis in each. A frequent type of case with many symptoms has a slight weakness of both inferior recti. Here diplopias are common and very annoying, as they change from one side to the other. Prisms may give relief. An example of convergent squint with double hyperphoria was given, and many other cases with different degree of hyperphoria. Many of these patients tilt their heads in order to bring the eyes on the same level and get binocular vision. The secondary contracture may be sufficient to require operation. The question of whether the rectus or oblique is at fault always arises, and it is sometimes difficult to decide. We should always assume that there is a paralysis and operate accordingly, and wait several months before a secondary operation is done on the other eye for contracture when this is necessary. Sometimes a double inferior oblique tenotomy is needed, and paralyses of the inferior oblique are not very rare, either single or double. In stenographers and seamstresses a paralysis of the inferior recti is fairly common.

The meeting was closed with a vote of thanks to Dr. White.

LYNN MEDICAL FRATERNITY

A regular meeting of the Lynn Medical Fraternity was held at the Willey House, Swampscott, on Thursday evening, March 21, 1935, at 8:30 o'clock.

Speaker: Dr. Nels Nelson, of the State Department of Health.

Subject: "Venereal Diseases."

Moving pictures were shown by Dr. Rauscher.

GREATER BOSTON MEDICAL SOCIETY

REGULAR MEETING

Time: Tuesday, April 2, 1935, 8:15 P.M.

Place: Auditorium, Beth Israel Hospital, Boston.

Speaker: George R. Minot, M.D., Professor of Medicine, Harvard Medical School.

Subject: "Some Aspects of the Etiology and Treatment of Anemia."

Discussion: William E. Dameshek, M.D., Maurice B. Strauss, M.D.

H. L. BLUMGART, M.D., *President.*
D. B. STEARN, M.D., *Secretary.*

MASSACHUSETTS PSYCHIATRIC SOCIETY

The next meeting of the Massachusetts Psychiatric Society will be held at the Boston Psychopathic Hospital, Tuesday, April 9, at 8:00 P.M.

PROGRAM

1. The Dynamics of the Cranial Vertebral Cavity. Drs. Abraham Myerson, William Dameshek and Julius Loman.
2. Problems of Research in State Hospitals. Dr. Jacob Kasinin.

OSCAR J. RAEDER, M.D., *Secretary.*

UNIVERSITY OF FREIBURG i. Br.

The University of Freiburg i. Br. will hold a vacation course of the medical faculty from July 1 to 23, 1935. For information address Akademische Auslandsstelle der Universität Freiburg i. Br., Schwimmbadstrasse 8, Germany.

PHI DELTA EPSILON FRATERNITY

The next open meeting of the Phi Delta Epsilon fraternity of Boston University School of Medicine will be held on Monday, April 1, at the Massachusetts Memorial Hospitals (Evans Auditorium), 80 East Concord Street, at 8:15 P.M. Physicians and medical students cordially invited.

PROGRAM

Speaker: Dr. Priscilla White, Physician, Deaconess Hospital and Associate, Joslin Diabetic Clinic.

Subject: "Diabetes in Children."

Discussion: Dr. H. Ulrich, Associate Professor of Clinical Pathology, Boston University School of Medicine.

Chairman: Dr. A. S. Begg, Dean, Boston University School of Medicine.

SYDNEY GRACE,
Chairman of Program Committee.

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Children's Medical Service will be held in the Ether Dome on Friday, March 29, at 12 noon.

Dr. S. H. Rubin will preside.

FAULKNER HOSPITAL CLINICAL MEETING

The next meeting will be held at the Faulkner Hospital on Thursday afternoon, April 4, at 5:00 P.M. In addition to the usual clinical pathological conference on the cases which have come to autopsy during the month, Dr. James M. Baty will give a short talk on "Anemia in Infants." All physicians are invited.

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNING MONDAY, APRIL 1, 1935

Monday, April 1—

†4 P.M. Clinic—Medical, Surgical and Orthopedic Services, Children's Hospital and Infants' Hospital (Amphitheatre).

*8:15 P.M. Phi Delta Epsilon Fraternity. Massachusetts Memorial Hospitals, Evans Auditorium, 80 East Concord Street, Boston.

Tuesday, April 2—

8:15 P.M. Greater Boston Medical Society. Auditorium, Beth Israel Hospital, Boston.

Thursday, April 4—

*12 M. Clinico-Pathological Conference. Massachusetts General Hospital.

†12 M. Clinico-Pathological Conference. Children's Hospital.

†4:30 P.M. Surgical Clinic. Peter Bent Brigham Hospital.

5 P.M. Faulkner Hospital Clinical Meeting.

Saturday, April 6—

*10-12. Medical Staff Rounds. Dr. Christian. Peter Bent Brigham Hospital.

*Open to the medical profession.
†Open to Fellows of the Massachusetts Medical Society.

March 28—Clinic at the Peter Bent Brigham Hospital, by Dr. Henry A. Christian at 3:30 P.M.

March 28—Massachusetts General Hospital, Clinical Meeting in the Moseley Memorial Building, 8:15-10 P.M.

March 29—Massachusetts General Hospital. Clinical Meeting of the Staff of the Children's Medical Service. See notice elsewhere on this page.

April 1—Phi Delta Epsilon Fraternity. See notice elsewhere on this page.

April 2—Greater Boston Medical Society. See notice elsewhere on this page.

April 4—Faulkner Hospital Clinical Meeting. See notice elsewhere on this page.

April 5—International Association for Prevention of Blindness will be held in London, England, 2 P.M., at the House of the Royal Society of Medicine, 1 Wimpole Street.

April 9—Massachusetts Psychiatric Society. See notice elsewhere on this page.

April 9—Tuesday, 8 P.M. Massachusetts Dietetic Association. Subject: "Small Hospital Problems," Miss Margaret Copeland, Superintendent, Free Hospital for Women.

April 12—William Harvey Society. Dr. Jonathan C. Meakins, President American College of Physicians, will speak on "Cardiology During the Past Three Hundred Years—The Legacy of William Harvey."

April 23—The Massachusetts Society for Social Hygiene will meet at the University Club, Boston. For information address Dr. E. Granville Crabtree, 99 Commonwealth Avenue, Boston.

April 25, 26, and 27—The American Association on Mental Deficiency will meet at the Palmer House, Chicago. For information address the Secretary, Dr. Groves B. Smith, Godfrey, Illinois.

April 29 - May 3, 1935—The American College of Physicians will meet at Philadelphia. For information address Mr. E. R. Loveland, Executive Secretary, 133-135 South 36th Street, Philadelphia, Pa.

June, 1935—Medical Library Association will meet in Rochester, N. Y. For details, address the Secretary: Miss Frances N. A. Whitman, Librarian, Harvard University Schools of Medicine and Public Health, Boston, Mass.

June 11—American Heart Association. The Eleventh Scientific Session will be held from 9:30 A.M. to 5:30 P.M., at the Hotel Claridge, Atlantic City, N. J. The program will be devoted to various subjects on cardiovascular disease. Gertrude P. Wood, Office Secretary, 50 West 50th Street, New York, N. Y.

June 12 and 13—Academy of Physical Medicine, Annual Meeting, will be held at the Claridge Hotel, Atlantic City, N. J. For further details address: Arthur H. Ring, M.D., Secretary-Treasurer, Arlington, Mass.

June 17 to 21—Convention of the Catholic Hospital Association will be held at Creighton University, Omaha, Nebraska. For information address the Most Reverend Joseph Francis Rummel, D.D., Bishop of Omaha.

June 27-29 inc.—British National Association for the Prevention of Tuberculosis will be held at Southport, England. Persons desiring further information should write to Miss F. Stickland, Secretary of the Association at Tavistock House North, Tavistock Square, London, W. C. I., England.

July 1-23—University of Freiburg i. Br. See page 594.

July 22-27—Seventh International Congress on Industrial Accidents and Diseases, Brussels, Belgium. The American Committee of the Congress is under the chairmanship of Dr. Fred H. Albee, New York, for the Section on Accidents, and that of Dr. Emery R. Hayhurst, Columbus, Ohio, for Industrial Diseases. The American delegation to the Congress will sail from New York on July 8 and visit London, Amsterdam, The Hague and Paris, and, optionally, Budapest. Physicians interested in the Congress or in the medical tour in conjunction with it, may address the Secretary, Dr. Richard Kovacs, 1100 Park Avenue, New York City.

October 7-10—American Public Health Association. See page 571.

DISTRICT MEDICAL SOCIETIES

ESSEX NORTH DISTRICT MEDICAL SOCIETY

The Annual Meeting will be held in May. Time, place and subject to be announced.

E. S. BAGNALL, M.D., Secretary.

FRANKLIN DISTRICT MEDICAL SOCIETY

Meeting will be held on the second Tuesday of May at the Weldon Hotel, Greenfield, Mass.

CHARLES MOLINE, M.D., Secretary.
Sunderland.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

May 8—Winchester.

K. L. MACLACHLAN, M.D., Secretary.
1 Bellevue Street, Melrose.

NORFOLK DISTRICT MEDICAL SOCIETY

May—Annual Meeting. Date, time and place to be announced.

PLYMOUTH DISTRICT MEDICAL SOCIETY

April—Lakeville Sanatorium.

SUFFOLK DISTRICT MEDICAL SOCIETY

April 24—Clinical Meeting at the Children's Hospital.

The medical profession is cordially invited to attend this meeting.

ROBERT L. DeNORMANDIE, M.D., President.
GEORGE P. REYNOLDS, M.D., Secretary.

WORCESTER DISTRICT MEDICAL SOCIETY

April 10—Wednesday evening. Worcester Hahnemann Hospital, Worcester, Mass. 6:30 P.M.: Dinner. 7:30 P.M.: Scientific program and business session. Announcement of subjects and speakers to be presented at a later date. Dinner complimentary by the Hospital.

May 8—Wednesday afternoon and evening. Annual Meeting of the Worcester District Medical Society. The time and place of this meeting will be announced later.

ERWIN C. MILLER, M.D., Secretary.
27 Elm Street, Worcester.

BOOK REVIEWS

The Power To Love. By Edwin W. Hirsch, Associate in Urology, College of Medicine, University of Illinois. 351 pp. New York: Alfred A. Knopf. $4.00.

Within the past few years a number of books about various aspects of sex have been published. Most of them have dealt solely with the physiological or psychological side of the problem; in "The Power to Love" Hirsch includes both of these. He begins by an exhaustive account of the anatomy and physiology of the sex organs, then considers the causes of sexual debility, medical and surgical treatment of impotence, psychical impotence, frigidity, premature ejaculation, sexual fear, the art of sexual technic and systems of sexual control. Brief summaries of the views of prominent psychologists concerning disorders of the sexual function are given.

The book is valuable as a compendium of the facts of the sexual life as they are known to-day. It is at times somewhat long-drawn out, and is written with a certain naïve egotism that is amusing, but it is a sincere, painstaking study of the problem nevertheless. Hirsch very properly considers the medical and surgical treatment of impotence as of relatively little value; the cause of the various sexual disabilities he believes to be almost always psychological. The remedy, he says, is reëducation of the individual or individuals involved. He goes into this phase of the question very thoroughly; the part the physician must play and the manner in which the patient must behave are treated exhaustively. Hints are borrowed from other peoples, such as the East Indians, who are notoriously successful in their sexual affairs.

Hirsch has approached his subject in a bold but understanding attitude. To most Americans, his book will give a newer and probably a wiser understanding of the possibilities of achieving sexual happiness; to the doctor it will suggest a definite technic for the better management of cases of sexual maladjustment.

Dynamics of Population. Social and Biological Significance of Changing Birth Rates in the United States. Frank Lorimer and Frederick Osborn. 460 pp. New York: The Macmillan Company. $4.00.

This book covers a wide field of observation, the result of long years of careful study. Its aim is to interpret the social and biological significance of changing birth rates in the United States. Part I considers the population trends of American groups, classified by race, nativity, national origin, occupation and economic status. The second part deals

with measurable characteristics of these groups, especially physical development and health, cultural and intellectual background and the variations in its development among groups classified by occupation or social status. A further section has to do with the influence of differential reproduction on the characteristics of the American people, and finally, in Part IV, the authors consider the causes and control of population trends. The work is illustrated by many charts and tables; there is an unusually full bibliography and a good index.

The reviewer feels that this will become a standard work on the problems discussed, many of which have interrelations with medicine. The ultimate worth of this publication will depend upon the effect which it has on attempts to control human destiny. Here are the facts as we know them to-day. It seems evident, according to the authors, that "the social conditions which affect reproduction might be modified in a number of ways, so that the dynamic influences of population change would be more in line with conscious social objectives. Eventually, if our dream of human progress is to be realized, rational social action must replace the operation of blind forces in this as in other fields. In the furtherance of this ideal there is need both for more exact science and for a larger appreciation of the possibilities and values of human life".

Manual of Clinical Laboratory Methods. Pauline S. Dimmitt. 156 pp. Illustrated. Philadelphia: F. A. Davis Company. $2.00.

This is another laboratory manual which duplicates the subjects covered by scores of other manuals already on the market. It is written primarily for the laboratory technician and does not include procedures which are done outside of the laboratory. The illustrations are all borrowed from other textbooks, but are quite well reproduced. The print is clear and the paper of good quality. There are certain tests which might have been described, but, unfortunately, were not, such as red cell volume, hematocrit, basal metabolic rate, etc. The book should provide a useful complement to other standard works.

To Remind. A biological essay. The Abraham Flexner Lectures. Series Number Two. Sir William Bate Hardy. 45 pp. Baltimore: The Williams & Wilkins Company.

At the time of his death early this year, Sir William was preparing for publication his complete Abraham Flexner Lectures as given at Vanderbilt University in 1931. But only two were finished and we have these in a delightful historical summary entitled "To Remind."

The main thesis of these lectures is a historical consideration of dissymmetry in molecular structure. This physical quality is one possessed only by compounds arising in the animate world. True, the chemist can make racemic mixtures in his laboratory from which he can isolate dextro- and laevo-rotatory components, but plants and animals possess the capability of producing one or another of these in pure form. That organisms are sensitive to differences in the optical rotation is evidenced by such facts as that left-handed adrenaline has thirteen times the physiological efficiency of the right-handed variety.

Sir William does not attempt to explain life on the basis of this important principle championed by Pasteur, but he presents some interesting speculations about life in the light of these observations.

Tuberculosis of the Lymphatic System. Richard H. Miller. 248 pp. New York: The Macmillan Company. $4.00.

In this comprehensive treatise on tuberculosis of the lymphatic system, Dr. Miller summarizes the many years of experience of the clinical group at the Massachusetts General Hospital, of which he is the head, and in addition, in the earlier chapters, presents an interesting sketch of the history of scrofula, —the King's Evil,—and the various steps by which science and sanitation have transformed it from a well-nigh universal affliction to the comparatively unimportant place it now occupies in human morbidity. The facts of the bacteriology, pathology, pathogenesis and immunology of the disease are ably summarized from the literature, and the gross anatomy of the lymphatic system is well described and illustrated. An interesting discussion concerns the possibility that the common bovine form entering the system through tonsils, adenoids and the lower alimentary tract and localizing in the tributary lymph nodes may confer immunity to the widespread dissemination of this form of the disease and more especially to the later inoculation of the human organism. While admitting the probability of some such immunity, the author states that: "In the case of a child with tuberculosis of the glands of the neck, we should regard the condition as one having inherent grave possibilities of spreading infection, rather than one in which the patient has acquired a condition which confers a beneficent resistance."

The most useful and unique part of the treatise are the last chapters, where Dr. Miller, basing his views on 536 carefully studied cases, describes concretely the principles and methods which have a place in therapeusis, including general hygienic measures, removal of tonsils and adenoids, sanatorium treatment, heliotherapy, ultraviolet rays, roentgen rays, radium, tuberculin and radical surgery. He believes that the latter is more frequently indicated than is the present custom and that the surgeon need not fear that his manipulation will disseminate the disease.

It is the irony of Fate that this admirable monograph is rendered possible by advances in the science and art of medicine, just when the sister science of sanitation has reduced so vastly the incidence of the disease of which it treats.